

**UNIVERSITY OF SHEFFIELD  
DEPARTMENT OF SOCIOLOGICAL STUDIES**

**EXAMINING CHILEANS'  
SUBJECTIVE WELL-BEING**

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*Dedicated to Carlos, my beloved and remembered father.*

# ABSTRACT

Taking into account the relevance subjective well-being has acquired in international research and political agendas in the last decade, this dissertation explores people's judgements and feelings as an essential part of our understanding of well-being in Chile. Subjective well-being is understood as the perception that people have of their own lives and the context in which they are living. That perception includes life satisfaction evaluations, positive and negative feelings and assessments about their social environment. This thesis argues that a broader assessment of well-being in Chile should include subjective well-being analyses, examining people's living conditions beyond the classical macroeconomic indicators such as the Gross Domestic Product (GDP) and National Household Incomes. Several studies covering subjective well-being in Chile have demonstrated that Chilean people experience higher levels of life satisfaction and happiness, but they have neglected to explore a wider notion of subjective well-being. In contrast with international evidence focused on psychological subjective well-being and the interactions between people's perceptions and views on their societies, national research still understands subjective well-being as a sum of pleasurable emotions and feelings taking place at an individual level exclusively. Tackling those limitations, this dissertation contributes with a multidimensional subjective well-being analysis underpinned by the Positive Psychology and the Capability Approach and supported by three empirical studies. The first study examines subjective well-being in Chile accounting for the classical hedonic aspect including life satisfaction and happiness, but also involving a eudaimonic component measured by people's freedom of choice and having meaningful lives and purposes. The second study explores how Chileans' subjective well-being might be affected by their perceptions towards their society, accounting for their level of confidence in national political institutions and generalised trust. Finally, the third empirical chapter examines how well-being is impacted by three sets of capabilities related to

material living conditions and promoted by Chilean social policy as key aspects for achieving Chileans' well-being. In turn, the results supported that subjective well-being is well reflected by the hedonic dimension, but also by a wider psychological well-being close to human flourishing. People's perceptions towards their social environment showed a higher effect on subjective well-being. Societal matters and social policies might positively or negatively influence people's evaluations and feelings; therefore, the notion of subjective well-being as an individual state should be reviewed, recognising that contextual aspects make a difference. Finally, some core aspects of social policy in Chile such as having access to healthcare, shelter, income and work were revealed to be crucial to achieving well-being, but are not enough for meaningful lives. Moreover, the findings also suggest that those aspects do not have the same relevance for all Chileans, indeed, according to specific demographic and socioeconomic attributes; there are some more relevant than others, supporting evidence for a more focalised national social policy in the future.

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# LIST OF ABBREVIATIONS

## A

ACI: Aggregated Capability Index  
ADIMARK-PUC: Bicentennial National Survey  
AGE: Age in years  
AHI: Adequacy Housing Index  
ANOVA: Analysis of variance  
APEC: Asian Pacific Economic Cooperation  
ARMY: Confidence in the Armed Forces  
AUGE: National Healthcare Programme

## C

CA: Capability Approach  
CAPITAL: Living in the Capital of Chile  
CASEN: Socioeconomic Characterisation National Survey  
CASEN PANEL Characterisation Panel Casen National survey  
CIVIL: Confidence in the Civil Services  
CFA: Confirmatory Factor Analysis  
CFA-MIMIC: Confirmatory Factor Analysis with Multiple-indicators  
multiple-causes  
CFI: Comparative Fit Index  
CHILDREN: Having Children at home  
CONADI: National Corporation for Development of Indigenous people

## D

DIPRES: National Public Finances Department

## E

ENCAVI: Quality of Life and Health Survey  
ESS: European Social Survey  
EUDA: Eudaimonic well-being  
EQGOV: Deregulated society where people are responsible of their own  
actions  
EQUALS: The government runs for all people interests instead of big  
interests  
ETHNICITY: Having an ethnic affiliation

## F

FAC: Factor Analysis of Correspondences  
FOSIS: Solidarity and Social Investment Fund  
FTIME: Full-time worker  
FREEDOM: Freedom of choice and control on own life

FST: Fuzzy Set Theory

## **G**

GDI: Gender Development Index

GDP: Gross Domestic Product

GDSI: General Domain Satisfaction Index

GII: Gender Inequality Index

GLLAMM: Generalised linear latent and mixed model

GOVERN: Confidence in the Government

GWP: Gallup World Poll

## **H**

HAPPY: Overall Happiness

HEALTH: Health status subjective perception

HEALTHY: Being healthy

HEDOC: Hedonic well-being

HDI: Human Development Index

HEDUCATION: Having higher studies

HOUSE: Type of House

## **I**

IASQ: International Association on Social Quality

ICCPR: International Covenant on Civil and Political Rights

IDPERSON: Unique number assigned for each individual in the sample

ILLNESS: Free of suffering a chronic illness

INCOME: Logarithm individual incomes

INDAP: Agricultural Development Institute

INJUV: National Youth Institute

IPOS: Social Policy National Reports

ISOCIO: Socioeconomic status subjective perception

## **L**

LB: Latin Barometer Survey

LSI-A: Life Satisfaction Index

## **M**

MAN: Being a man

MATERIAL: Material quality of walls, floors and roof

MCFA: Multilevel Confirmatory Factorial Analysis

MEANS: Having the means to engage in valued and productive activities

MIDEPLAN: Department of Social Development and Planning

MINSAL: Ministry of Health

MINVU: Ministry of Housing and Urbanism of Chile

MPI: Multidimensional Poverty Index

## **N**

NFAMILY: Family networks to find a job or undertaking a business

NOTHERS: Other networks to find a job or undertaking a business

## **O**

OECD: Organisation for Economic Development and Cooperation

OLDER: Age over 60 years old

OLS: Ordinary Least Square Regression

ONS: Office of National Statistics

OPHI: Oxford Poverty and Human Development Initiative

## **P**

PARENT: Being a parent

PARLIAMENT: Confidence in Parliament

PCA: Principal Component Analysis

PERMA: Positive Emotion, Engagement, Relationships, Meaning and Accomplishments

POLICE: Confidence in the Police

PP: Positive Psychology

PPARTIES: Confidence in the Political Parties

PRODEMU: Programme for Women Development

PURPOSE: Meaning and purpose of life

PTIME: Part-time worker

## **Q**

QOL: Quality of life

QUINTILE1: Self-reported in the first income quintile

QUINTILE2: Self-reported in the second income quintile

QUINTILE4: Self-reported in the fourth income quintile

QUINTILE5: Self-reported in the fifth income quintile

## **R**

RETIRED: Being retired

RIGHTS: Respect for human rights nowadays

RMSEA: Root Mean Square Error of Approximation

## **S**

SAVINGS: Having savings

SATISF: Overall Life Satisfaction

SELF: Self-employer

SENADIS: National Disability Funds

SENAM: National Older people's Service  
SENCE: National Service of Training and Employment  
SEM: Structural Equation Modeling  
SERNAC: National Customers Assistance Service  
SERNAM: National Women's Service  
SHELTER: Being adequately sheltered  
STD: Self-Determination Theory  
STDY: Standardised Coefficients  
SUPPLY: Access to water and sewage services  
SWB: Subjective Well-being  
SWC: Subjective Well-being Capability Approach  
SWLS: Satisfaction with Life Scale

## **T**

TLI: Tucker-Lewis Index  
TRUSTED: Most people can be trusted

## **U**

UDP: National Public Opinion Survey  
UNEMPL: Being unemployed  
UNDP: The United Nations Development Programme  
URBAN: Living in Urban area

## **W**

WLSMV: Weighted Least Squares and Mean and Variance adjusted  
WVS: World Values Survey

## **Y**

YOUNGER: Age 18-29 years old  
YEAR4: Period from 1999 to 2004  
YEAR5: Period from 2005 to 2009  
YEAR6: Period from 2010 to 2014

# Chapter 1: Thesis Overview

Civil society, organizations, governments and international agencies have reported data on individuals, families, regions or countries well-being. Human well-being especially at nation level receives much attention through several ranks in which living standard and quality of life are analysed. Well-being international rankings are a relevant tool to evaluate the impact of policy interventions on each country, suggesting recommendations on their design and implementation. However, human well-being achievements have also attracting the attention from various academic disciplines within the social sciences. An extensive body of literature are focused on responding to new global conditions and more complex conceptualisations and proposals to improve data collections and well-being measures.

Additionally to a great interest in this subject, there are many different approaches for understanding well-being. Studies concerned about how improve people's lives or nation's development are usually linked with concepts such as quality of life, human development, social welfare, life satisfaction and happiness, whereas opposite concepts used to be poverty, material deprivation and multiple deprivation. Despite that great conceptual diversity, it is widely accepted that well-being cannot be measured using only monetary indicators such as Gross Domestic Product (GDP) or household income as accurate and sufficient measures.

That transition from an economic well-being understanding to a more complex approach is observed in several theoretical perspectives analysing well-being nowadays. For example, the deprivation perspective supports that well-being cannot be exclusively related to unsatisfied basic human needs (Townsend, 1987). In fact, beyond that material deprivation, some well-being studies have supported the use of "multiple deprivation" which recognises the importance of other non-material dimensions as key aspects for achieving a better life such as health problems, low life satisfaction, lack

of autonomy, unemployment and financial strain among others (Hick, 2016; Whelan et al. 2002). Many nations' deprivation indices include a mix of material and non-material indicators related to education, living condition, access to goods and services, labour market, income, health, living environment, physical environment, and crime (Świgost, 2017; Payne, 2012). In a few cases, some subjective people's perceptions are also included in the indices such as housing living evaluations and health status perception (Świgost, 2017).

Another broad approach looking for an overall assessment of human experience has been commonly associated with the notion of "Quality of Life" (QOL) which involves both objective and subjective well-being dimensions across multiple people's life domains or sophisticated schemes to understand well-being at societal level. Similarly than the multiple deprivation perspective, studies based on QOL approach at individual level includes a set of dimensions such as emotional well-being, health and vitality, material living conditions, income and financial strain, community and supportive relationships and work among others (European Social Survey, 2013; Halleröd and Seldén, 2013; Haq and Zia, 2013). Nevertheless, QOL is also strongly concerns about the impact of societal and normative aspects on people's overall well-being. In this regard, studies show interest on those basic societal aspects for achieving a "decent society" such as protection from poverty and material deprivation, social cohesion, social inclusion, empowerment, social justice, solidarity, equal values and human dignity among others (IASQ, 2019; European Social Survey, 2013).

A third well-being perspective called "the capability approach" (CA) instead of accounting for those things that people have or not, the CA concerns on what a person is actually able to do or to be. The CA mainly developed by Amartya Sen contains two main concepts: functionings and capabilities. Functionings are defined as "the various things a person may value doing or being" (Sen, 1999:75) such as a healthy physical condition, being educated or having a satisfactory job. Capabilities are "various combinations of

functionings that the person can achieve. Additionally, Sen refers to individual endowments and conversion factors as a set of socio-demographic, personal, social and environmental factors and life transitions which can promote or constrain people's opportunities for achieving a better life. In This regard, the CA emphasis on people's abilities and choices to achieve a better life, but also on those aspects that the society in which they live put on their way. Due to the value gave to human freedom to choose their own well-being as well as the impact of the societal structures, this dissertation supports chapter 6 and 7 on this perspective.

According to my review, a common point between these well-being perspectives is the importance to understand human well-being as a multidimensional concept. That implies the use of several non-material dimensions and the inclusion of subjective well-being indicators as valid sources of information. Nevertheless, the relevance of subjective well-being (SWB) for achieving a more comprehensive well-being understanding has not been exclusively highlighted for empirical research. There are relevant international initiatives looking for a greater human development which have reinforced its political importance.

For example, some initiatives such as the OECD Istanbul Declaration in 2007 (Giovanni et al. 2007) and the Stiglitz Commission in 2009 (Stiglitz et al. 2009) have encouraged nations to involve SWB dimensions in their data collection and official statistics, understanding human well-being beyond GDP. The premise behind is that SWB might inform some aspects still unknown or hidden in common analyses, contributing to a broader well-being understanding. Politicians and policy makers need to know not only about objective living conditions, but also about how people experience their lives. If policies are designed to address citizens' well-being as the final goal then SWB should be measured through their design, monitoring and evaluation over time. Through the next section, it is given a context to understand the relevance of this matter for the Chilean case and the contributions of this dissertation.

## **The Chilean Case**

Chile is a South American country with a long yet narrow strip of land that sits between the Pacific Ocean and the Andes. Chile is the 6th most populous country in South America (after Brazil, Colombia, Argentina, Peru and Venezuela), with an estimated 2019 population of 18.34 million. It is also one of the most prosperous and stable nations in the region, leading Latin America in income per capita, human development and low corruption perception (CEPAL, 2019).

According to the Organisation for Economic Development (OECD), Chile has made relevant progress improving the quality of life of its citizens in terms of a systematic poverty reduction and high persistent economic growth (OECD, 2015). These improvements might be partially explained by a strong national social policy focused on satisfying basic human needs and promoting basic functionings especially for those living in vulnerable conditions

According to my review, there are three key periods in Chilean social policy. The socialist regime prior to 1973 focused on higher investment to answer increasing social demands. A military dictatorship regime was in power from 1973 to 1989 in which the social policy was subordinated to a new economic model. Finally, a democratic period from 1990 onwards underpins by the neoliberal economic model previously established, but putting special emphasis on programmes for priority groups and an efficient use of resources (IPOS, 2014).

The social policy designed prior to 1973 was based on a benefactor government responsible for designing, funding and implemented a set of programmes and social services. The social expenditure systematically increased, seeking maximum coverage, instead of focusing on priority groups or on the efficient use of resources (Raczynski, 1998). After 1973, Chile replaced an economic model based on communist principles with a neoliberal economic regime. That meant that the benefactor government was substituted for a subsidiary one in which social policy was subordinated

to macroeconomic criteria instead of social demands. Social expenditure decreased, whereas the privatisation of public services previously managed by the government, increased (Baytelman et al. 1999).

From 1990 to 2009 Chilean policy was rethought by a democratic government proposing a social policy integrated with the national economy. Under the premise “grow with equity”, the focus was on improving Chileans’ quality of life and keeping a macroeconomic equilibrium. Initially, national political interventions confronted extreme poverty conditions and income inequality emphasising a higher access to education, labour training, and support for self-employed people. Subsequently, a clearer identification of the priority social groups allowed a better focus of the resources on the youngest and oldest people as well as women, disabled people, and the indigenous population (IPOS, 2014).

In the decade, national social policies have highlighted the relevance of creating capabilities and opportunities to achieve well-being. Even though reducing poverty is still a development aim, social interventions are related to maximising opportunities across the population through an efficient articulation of several sectors and reducing inequalities within the population (MIDEPLAN, 2017). There are four core well-being dimensions: “education and culture”, “work and social protection”, “housing and neighbourhood” and “health” (IPOS, 2014). Policies promoting “Education and Culture” are focused on increasing access, quality and equity to educational and cultural services. Some programmes include credits endorsed by the government, scholarships for students and teachers, teacher training and monitoring, cultural activities in neighbourhoods and talent schools.

“Work and Social Protection” describes intervention in policies seeking more and better jobs as well as improvements to labour conditions and social protection. Programmes involve subsidies for younger and female householder employees, labour training, credits, subsidies and assistance for

self-employed people, unemployment insurance and compulsory pension savings for independent workers among others.

Policies focused on “Housing and Neighbourhood” are related to reducing housing deficit, improving the material quality of houses, recovering priority neighbourhoods, decreasing overcrowding and camps and increasing people’s satisfaction with their environment. Interventions include subsidies to acquire, maintain, build or rebuild a house, participative programmes to create green and recreational areas and recovery of public spaces.

Finally, policies on “Health” aim to improve the management and efficiency of healthcare centres, attending illness, preventing and confronting smoking and alcohol addictions and promoting healthy life styles. Interventions in these areas include a higher coverage of healthcare attention, programmes preventing obesity, HIV, and cardiovascular illnesses, interventions promoting healthy dietary habits and self-care.

Through those social programmes covering those core well-being aspects, national social policies have highlighted the relevance of creating capabilities and opportunities to achieve well-being. Moreover, methodological improvements in the instruments measuring quality of life have also been developed. For example in 2014, Chile started to use a multidimensional poverty measurement instead of analyses based on income exclusively being the old socioeconomic classification tool based replaced by a new one involving a wider range of indicators (MIDEPLAN, 2015b).

Despite those efforts, measurements of quality of life in Chile are still far away of those multidimensional approaches linking both objective and subjective well-being indicators. For policy purposes, the Chilean government has shown an interest in including SWB as an explicit component in its development of policies during the last decade. In 2012 a complete report of Chileans’ SWB was required from The United Nations

Development Programme (UNDP). Moreover, the most relevant Chilean survey has incorporated some questions measuring SWB during the last two collection periods in 2013 and 2015 (CASEN, 2015). These actions are attempts to introduce some of the guidelines for measuring SWB proposed by the Organisation for Economic Development and Cooperation (OECD) in 2013.

Likewise, it was observed an increasing interest on SWB as research subject, however it is still limited compared with the conceptual and methodological approaches supporting several international studies. We identify that national research aims to SWB follows four lines. A first set of studies measuring the impact of socio-demographic variables on life satisfaction or happiness. A second group concerns on how life satisfaction or happiness is unequally distributed within the Chilean population. A third line focuses on generating or validating international SWB scales to be applied in the Chilean case and finally a fourth group of studies evaluates the association between happiness and life satisfaction with a specific well-being dimension such as health or education.

The limitations observed in the SWB national research are both, theoretical and methodological. In the first case and excluding for the UNDP report in 2012, all the studies are based on a hedonic perspective or an exclusive psychological point of view. That means that SWB is understood as the sum of pleasurable experiences and positive feelings, but other aspects related to a wider SWB approach such as having self-development, meaning and purpose of life or freedom to choose are not covered in the analyses. Overall happiness and life satisfaction are the most common SWB indicators used and they usually are separately examined.

In the second case, national research focused on SWB has relevant methodological limitations. Firstly, most of studies are based on very specific and small samples, therefore their results are not representative at national level. Secondly, all of them use cross-sectional data, hence longitudinal analyses evaluating the impact of people's life transitions or time effects are not possible. Finally and expect for those studies examining

the psychometrics properties of international SWB scales, the quantitative methods applied poorly contribute to a better SWB understanding because there are mainly old generation quantitative methods.

Confronting the methodological limitations found in the current national research, this dissertation takes advantage of the structural equation modeling approach to evaluate SWB as a conceptual construct, instead of the use of isolated indicators such as life satisfaction or happiness as synonymous of SWB. Moreover, SWB differences in the population according to specific individual attributes can be measured by the inclusion of a set of variables such as age, sex, marital status, and socioeconomic and occupation status among others.

Facing with the lack of sample's representativeness, this dissertation uses two probabilistic datasets which allow getting reliable findings for all the population. In order to examine SWB variations over time, the only longitudinal national database available for the overall Chilean population is used. In this regard, this is the first research attempt by understanding SWB as a phenomenon over people's life course instead of one period.

Tackling with the reductionist theoretical approaches used for understanding well-being in Chile, this dissertation includes quantifiable social, health and economic indicators to reflect how well human needs are satisfied, but also it involves a set of subjective well-being indicators. Answering three connected empirical questions, this dissertation moves from a basic to a more complex conceptual approach. Firstly, it is built a multidimensional measurement of Chilean's SWB involving more than the classical hedonic indicators, happiness and life satisfaction. Then, SWB is examined as a phenomenon "in context", letting behind the idea that SWB is exclusively a personal state completely separate of the society in which people live. Finally, a multidimensional well-being concept is proposed, using the capability approach as theoretical base, and including SWB indicators in a wider quality of life measurement. Table 1.1 illustrates the aims of this dissertation and the theoretical approaches underpin them.

**Table 1.1** Aims and key aspects examined in this dissertation

<b>Aims</b>	Addressing a multidimensional SWB measure	Examining the effect of people's societal view on SWB	Evaluating multidimensional well-being integrating objective and subjective indicators
<b>Theoretical approach</b>	Positive Psychology	Capability approach	
<b>Key aspects</b>	Hedonic well-being Eudaimonic well-being	Confidence in national institutions  Generalised trust in Chilean Society	Basic Capabilities to achieve a better life
<b>Examining inequalities within population</b>	Demographic, Socio-economic and Family life bottom-up predictors.	Demographic and Socio-economic aspects  Family life	Demographic and Socio-economic indicators  Family life transitions  Territorial aspects

This dissertation firstly creates a multidimensional SWB measure instead of the use of life satisfaction or happiness as synonymous of SWB. Underpinned on the positive psychology perspective a set of subjective indicators are used to understand Chileans' SWB beyond pleasurable experiences and positive feelings. Moreover and using several predictors, it is examined how SWB varies within the Chilean population according to specific personal attributes.

Secondly, the impact of two social factors on Chileans' multidimensional SWB is evaluated. It is hypothesised that a greater institutional confidence and having a generalised trust in the Chilean society have a positive influence on people's SWB. A positive normative framework should promote positive people's views about the opportunities that their social environment gives. Moreover and accounting for an unequal well-being distribution within the Chilean population, the concept of individual endowments is examined through a set of demographic and socioeconomic control variables as potential sources of SWB disparities in Chile.

Thirdly, this dissertation explores the concepts of capability and functioning widely. Current social policy in Chile is focused on four quality of life

aspects: health, education and culture, housing and neighbourhood, and work and social protection (Chapter 4, section 4.2). Current measures quantify the access to goods and services associated with these four dimensions, putting an emphasis on what people have instead of what people are able to do or be as the capability approach proposes. By contrast, this dissertation re-thinks those four dimensions as set of capabilities which are basic to satisfy human needs and achieving well-being.

Moreover, this dissertation also involves a set of SWB indicators as relevant functionings for achieving a better life together with those classical objective measures present in the national policy design and monitoring. Current national research has undertaken analyses only based on objective indicators, being opposite to the integrated approach seen in the international literature.

In terms of structure, nine chapters comprise the theoretical and empirical developments of this dissertation. Chapter 2 reviews an extensive body of literature focused on human SWB. It is given an overall framework of two relevant theoretical approaches conceptualising SWB, positive psychology and the Capability Approach. Empirical evidence at an international level as well as research based on the Chilean case is discussed in order to identify gaps and ways through which this dissertation could reduce them. At the end of this chapter, research questions and hypotheses are presented.

Chapter 3 describes the methodology adopted in answering the three research questions developed through the empirical chapters. Under a quantitative approach, this chapter firstly details the secondary databases used to answer our questions, together with their strengths and limitations. A special emphasis is given to the methods of analysis applied. Finally, some ethical issues are also mentioned.

Chapter 4 contains two main sections answering the question: *What do we know about Chileans' well-being?* Firstly, the Chilean social policy promoting well-being is briefly characterised. Then, the second section contextualises SWB in Chile through descriptive analyses based on life satisfaction and happiness as the most classical SWB indicators.

Chapter 5 answers the question: *Are the hedonic and eudaimonic distinctive components of Chileans' subjective well-being?* Based on the principles of positive psychology, the hedonic dimension is understood as the sum of pleasures over people's lives including indicators such as life satisfaction and happiness. Otherwise, eudaimonic well-being is synonymous with positive psychological well-being, involving aspects such as having freedom of choice, a sense of a meaningful life and positive social relationships among others (Deci and Ryan, 2008; Todd et al. 2008; Clark and Senik, 2011; Huppert and So, 2013, Disabato et al.2016).

Although there is empirical evidence supporting the existence of the hedonic and eudaimonic as differentiated SWB dimensions, this issue has not been investigated in the Chilean case. Most SWB studies in Chile are focused on hedonic analyses, using life satisfaction or happiness as the main proxies. Using data from the World Values Survey (WVS) from 1990 to 2014 (Inglehart et al. 2014), Chapter 5 contributes to a wider perspective, involving eudaimonic indicators as well as a range of demographic and socioeconomic individual attributes predicting eudaimonic and hedonic disparities within the Chilean population.

Developing a confirmatory factor analysis (CFA) the findings confirm that the hedonic and eudaimonic are two correlated, but differentiated SWB dimensions. A higher positive effect of the eudaimonic factor was observed, explaining Chileans' SWB in contrast to the hedonic dimension. Another conclusion is that the same predictor shows a different effect on hedonic compared with eudaimonic well-being. For example, age as a predictor, shows that being younger positively impacts on hedonic well-being, whereas eudaimonic is positively impacted by being older. For policy purposes, this evidence implies that recognised sources of well-being disparities such as being older, being a woman, or being less educated could restrict achieving well-being, but in other cases, they become promoters. Finally, the findings partially support that the eudaimonic dimension is not significantly predicted by time. In fact, the results indicate that specific life events over people's life-course such as getting married, being unemployed

or retired are significant predictors of the eudaimonic dimension contrasting with time effects. The chapter ends giving some social policy guidelines based on the results obtained.

Chapter 6 aims to answer *Is Chileans' subjective well-being affected by their perceptions towards their society?* Based on the Capability Approach led by Amartya Sen (1992), this chapter explores how the individual's perception towards Chilean society might impact on life satisfaction and hedonic and eudaimonic well-being. In particular it examines the effect of two societal aspects on Chileans' SWB: the level of confidence in political institutions and the level of trust in Chilean society.

Whereas the previous chapter is focused on SWB as an individual matter, this chapter supports that Chileans' SWB is highly influenced by their perception of their societal environment. That means that Chileans' SWB is affected by the context in which people live because societies play a crucial role promoting or constraining positive experiences and feelings (Hudson, 2006; Elchardus and De Keere, 2013; Aschauer, 2014). It is hypothesised through this chapter that life satisfaction, hedonic and eudaimonic well-being are positively influenced by a higher confidence in political institutions as well as by a positive generalised trust in society.

Using data from the WVS from 1990 to 2014, a CFA examined the association between individual perceptions based on one's feelings and judgements and people's view on their society. Expected results were confirmed, indicating that both feeling trust in society and political institutions positively impacts on life satisfaction, hedonic and eudaimonic well-being. It was also found that having a generalised trust in society is the strongest predictor of life satisfaction, hedonic and eudaimonic well-being. Finally, the insights suggest that context influences people's lives beyond their life satisfaction and happiness, affecting other domains related to individual freedoms and meaningful lives. Through results, some future guidelines in the design and evaluation of social policies in Chile are proposed.

Chapter 7 is focused on the question *Do essential capabilities help to explain Chileans' well-being?* Based on the Subjective Well-being Capability approach (SWC), this chapter involves a set of indicators examining the effect of three sets of capabilities on Chileans' well-being: "being healthy", "being adequately sheltered" and "having the means to engage in valued and productive activities". All these sets are understood as essential means to develop people's potential and achieving overall well-being (Sen, 1992; 1999; Nussbaum, 2003, 2011).

Even though all the variables included on each set of capabilities are part of the official social development reports in Chile, these are examined as separate well-being dimensions. On the contrary, this dissertation explores Chileans' well-being as a multidimensional construct explained by some interrelated capabilities. Moreover, a set of individual characteristics labelled by Chilean social policy as sources of well-being inequalities in the population are also examined as predictors on the three sets of capabilities.

Taking advantage of a Chilean longitudinal dataset covering four waves from 2006 to 2009, a multilevel confirmatory factor analysis (MCFA) is developed. Through that method, the effect of the three capabilities on SWB and the associations between them were observed. As was expected, the findings showed that the three sets of capabilities have a significant positive effect on Chileans' well-being. Moreover, "*having the means to engage in productive and valued activities*" reported a higher impact on well-being compared with "*being healthy*" and "*being adequately sheltered*" as well as having a significant effect on the latter two. Finally, personal attributes showed differentiated effects by set of capability, contributing relevant information for those policies focused on health, material living conditions and socioeconomic domains. Similarly than the other two empirical chapters, some social policy implications based on our own findings are detailed here.

Chapter 8 suggests a set of guidelines for policy purposes in order to promote SWB and overall well-being in Chile. Taking into account our main results, this chapter offers specific lines for improving national policy design and monitoring.

Finally, chapter 9 offers general conclusions based on the main results obtained. Some theoretical and methodological contributions of this dissertation are also presented. The chapter ends with a list of further research studies required in the future to increase our knowledge in this field.

# Chapter 2: Literature Review

## 2.1 Introduction

This chapter seeks to provide a theoretical and empirical framework of SWB research at both the international and national levels. In the first section, the importance of taking into account SWB as a relevant aspect of people's overall well-being is discussed. In the second part, the focus is the relevance of SWB as a research matter. Then, a conceptualisation of what SWB is and how it has been commonly measured is given. In the fifth section, the most common factors predicting people's SWB are analysed. The sixth section discusses the wisdom and limitations of the current research based on the Chilean case. Finally, the literature review highlights the contributions of this dissertation of improving our knowledge of well-being in Chile and providing relevant input for social policy purposes.

## 2.2 Subjective Well-being under a Well-being Perspective

Many different well-being conceptualisations have been proposed, including quality of life, living standards and human development as the most common dimensions. Other definitions embrace welfare, social welfare, well-living, utility, life satisfaction, prosperity, needs fulfilment, capability expansion and happiness (McGillivray, 2007). The term "well-being" is ambiguous and used to refer many aspects of life depending to theoretical approach assumed. For example the utilitarian perspective influenced by economists reduces well-being to material means, while hedonic perspective is based on subjective aspects such as experiences of happiness, unhappiness and contentment. As a result of the ambiguity around well-being term, the choice of main dimensions and indicators could be a difficult task for any researcher. Some frameworks to analyse well-being including basic human needs approaches; subjective well-being approach, and the most recent capabilities approach (McGillivray, 2007).

Through this section, the most relevant theoretical approaches and empirical attempts for measuring well-being as a multidimensional concept are presented. Contributions from the multiple deprivation perspective, the quality of life perspective and the capability approach are briefly discussed and linking them with the aims of this dissertation.

### **2.2.1 Multiple deprivation perspective**

Under the deprivation perspective, well-being or quality of life might be understood as not being deprived of satisfying basic human needs and other relevant life domains. One of the pioneers of this perspective is Peter Townsend (1987) who distinguished between material deprivation as the access to goods, services and conditions which enables living with dignity and, social deprivation understood as individual's ability to fully participate in community life. Later studies have created the concept "multiple deprivation" which is intended to focus in the way that people are able to live, and not only on those aspects of life that are directly related to monetary resources. In this regard, multiple deprivation involves other non-material dimensions such as health problems, low life satisfaction, lack of autonomy, unemployment and financial strain among others (Hick, 2016; Whelan et al. 2002).

Current studies focused on poverty and social exclusion have put special attention on the multiple deprivation concept because it involves more than income poverty. Indeed, many studies have demonstrated that people on low incomes are not necessarily suffering deprivation, therefore social exclusion processes are more complex than only being economically deprived (Whelan et al. 2002). Although income and employment are transversal material dimensions included in most of the international deprivation indices, there are other interesting aspects examining people's well-being.

A recent study examined the deprivation indices currently operating in Czech Republic, Spain, Canada, Germany, Norway, New Zealand, Poland, Portugal, the USA and the UK (Świgost, 2017). The overview shows that the most commonly deprivation indicators are related to education, living condition, access to goods and services, the labour market and income. By

contrast, dimensions such as health and crime are less covered. A similar conclusion is obtained reviewing the most important deprivation indices in the UK (Payne, 2012). He found that income and employment are key dimensions across the region, whereas health, education and training, access and barriers to services, living environment and housing, physical environment, and crime are differently weighted within the UK, but also include in the indices.

It was also noted that analyses of multiple deprivation take into account some groups particularly vulnerable to social exclusion such as unemployed people, low-skilled workers, disabled people, single parent or multi-child families, families struggling with drug or alcohol addictions and violence among others (Świgost, 2017; Hick, 2016; Whelan et al. 2002). Moreover, although there is an emphasis for including objective measures such as lack of adequate domestic installations, level of unemployment and average household income, there are some attempts for including subjective perceptions. For example, the deprivation index in Germany includes subjective opinions of people regarding the size and material characteristics of their residence and the deprivation index in the Czech Republic evaluates subjective health status perception (Świgost, 2017).

Although this dissertation is not underpinned by the multiple deprivation perspective, but also on the capability approach later discussed, some points of that perspective are relevant for our purpose. First, we are also concerned about an unequal well-being distribution within the Chilean population. Using demographic, socio-economic and family characteristics potential differences on both SWB and overall well-being are examined (Chapter 5 and Chapter 7 respectively).

Similarly than some multiple deprivation indices reviewed, this dissertation addresses a multidimensional well-being analysis for Chile accounting for both, objective and subjective indicators. That implies an effort for overcoming those common analyses in the national research based on one type of dimension.

### **2.2.2 Quality of life perspective**

Another broad approach looking for an overall assessment of human experience has been commonly associated with the notion of “Quality of Life” (QOL) across several disciplines including psychology, medicine, economics and sociology. The term QOL has usually been understood as how well human needs are met or the extent to which people perceive satisfaction or dissatisfaction in various aspects of their lives. According to my review, research on QOL has moved from a basic utilitarian perspective based on basic human needs satisfaction to a more complex approach involving objective and subjective well-being dimensions across multiple people’s life domains. It should be noted that there are several enriched models measuring quality of life at national level, but also empirical studies looking for a better understanding at individual level as well.

For example, measuring societal well-being, the European Social Survey (2013) proposes a quality of life model in which four aspects are defined as requirements for achieving a “decent society”: “economic security” understood as protection from poverty and material deprivation across the life-course; “social cohesion” as the society’s ability to hold together, share expectations and tolerate diversity; “social inclusion” as the access to social support, inclusion in normal day-to-day activities and civil society and finally, “empowerment” as the individuals’ ability to control their lives and to take advantage of social, economic and cultural opportunities.

At an individual level, the European Social Survey (2013) also proposes a multidimensional well-being approach, connecting six life-domains aspects: evaluative well-being which refers to overall personal estimations of how well the life is going; “emotional well-being” which includes positive day-to-day feelings; “functionings” as feelings of autonomy, competence, engagement, meaning and purpose, self-esteem, optimism and resilience; “vitality” which includes feeling well and energised to face the challenge that life presents; “community well-being” which covers feeling supported by others, trusted and experiencing a sense of neighbourliness; and

“supportive relationships” related to be appreciated, accompanied and supported by others.

Another interesting initiative is the social quality architecture proposed by the International Association of Social Quality<sup>1</sup> (IASQ). There are three sets of factors which interplay between two basic tensions, the horizontal between systems and communities and the vertical between the change of societal complexities and biographical developments. A first factor called “constitutional factors” involves aspects such as personal security, social recognition, social responsiveness and personal capacity. The second factor “conditional factors” refers to socio-economic security, social cohesion, social inclusion and social empowerment. The third “normative factors” are related to social justice, solidarity, equal value and human dignity.

Some empirical studies have also linked objective and subjective indicators looking for a greater quality of life understanding. For example, Haq and Zia (2013) incorporated a set of subjective indicators to measure quality of life as proxy of well-being in 100 districts of Pakistan. Classical objective dimensions were education, health and living conditions indicators, while the subjective dimension considered people’s satisfaction with educational facilities, satisfaction with health facilities, satisfaction with family planning services, satisfaction with safety and police services, households’ perception of economic status and finally, perception of economic status of the community where people live.

Halleröd and Seldén (2013) also linked objective and subjective indicators to analyse quality of life of older people, including health (subjective evaluation of health and indicators of somatic health problems); functions (what people can or cannot do in physical terms); psychosocial (feelings and moods); social relation (networks, lack of contact) and economy (experiences of economic hardship, vulnerable economic situation).

Similarly to the multiple deprivation approaches, initiatives and studies under the quality of life perspective integrate both, objective and subjective

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<sup>1</sup> <https://socialquality.org/theory/>

well-being dimensions. Nevertheless, the impact of societal and normative aspects as well as the community role and biographical processes have a special relevance. Taking into account the importance of the social environment on people's well-being, this dissertation explores on the impact of some particular attributes of the Chilean society on people's SWB. In this regard, we recognise that SWB cannot be understood as the pursuit of pleasure and positive feelings as an exclusive individual matter. Tackling with that limitation, this dissertation firstly creates a multidimensional SWB concept going beyond that hedonic perspective (Chapter 5). Then we examine SWB as an issue affected by the society in which people live (Chapter 6) and SWB as part of a wider multidimensional well-being approach (Chapter 7).

### **2.2.3 The Capability Approach**

Conversely to the multiple deprivation perspective based on what people have not, the capability approach conceives well-being in terms of what a person is actually able to do or to be. This perspective mainly developed by Amartya Sen contains two main concepts: functionings and capabilities. Functionings are defined as "the various things a person may value doing or being" (Sen, 1999:75) such as a healthy physical condition, being educated or having a satisfactory job. Capabilities are "various combinations of functionings that the person can achieve. Capability is, thus, a set of vectors of functionings, reflecting the person's freedom to lead one type of life or another...to choose from possible livings" (Sen, 1992:40) Additionally, Sen refers to individual endowments and conversion factors as a set of socio-demographic, personal, social and environmental factors and life transitions as key predictors of people's well-being which can promote or constraint people's opportunities for achieving a better life. These concepts are widely discussed later in this chapter (Section 2.4) as well as empirical applications using the capability approach for measuring well-being (Section 2.4.5).

It is important to note that two empirical chapters of this dissertation are supported by this theory. In chapter 6 the impact of two social factors on Chileans' SWB is evaluated. It is hypothesised that a greater institutional

confidence and having a generalised trust in the Chilean society have a positive influence on people's SWB. A positive normative framework should promote positive people's views about the opportunities that their social environment gives. Moreover and accounting for an unequal well-being distribution within the Chilean population, the concept of individual endowments is examined through a set of demographic and socioeconomic control variables as potential sources of SWB disparities in Chile.

Otherwise, Chapter 7 explores the concepts of capability and functioning widely. Current social policy in Chile is focused on four quality of life aspects: health, education and culture, housing and neighbourhood, and work and social protection (Chapter 4, section 4.2). Current measures quantify the access to goods and services associated with these four dimensions, putting an emphasis on what people have instead of what people are able to do or be as the capability approach proposes. By contrast, this dissertation re-thinks those four dimensions as set of capabilities which are basic to satisfy human needs and achieving well-being.

Moreover, this dissertation also involves a set of SWB indicators as relevant functionings for achieving a better life together with those classical objective measures present in the national policy design and monitoring. Current national research has undertaken analyses only based on objective indicators, being opposite to the integrated approach seen in the international literature. Through the next section, the importance of including SWB as a research and political matter is discussed.

### **2.3 Why Subjective Well-being Research Matters**

Early well-being conceptualisations from the 1960s were mostly concerned with measurements of social indicators such as people's socioeconomic level, educational attainment and material housing as expressions of a good life. In this regard, well-being was understood as a natural consequence of societies aiming to maximise their economic growth through higher production levels and material wealth over time (Sandoval, 2014). Some preliminary SWB analyses in psychology were associated with happiness

self-reports, complementing expert evaluations on people's mental health (Castellanos, 2012).

From the 1960s onwards well-being studies were mostly focused on economic growth due to the previous economic depression in 1929 and the financial effects of the Second World War. Nevertheless, other concerns related to an economic conceptualisation and operationalisation of human well-being started to appear on the public agenda. Confronting that limitation, a set of social indicators was suggested as essential for designing and monitoring accurate public policies. For example, it was commonly argued that access to housing, healthcare services, education and basic supplies constitute the basic well-being indicators (Andrews, 1989, cited by Castellanos, 2012, pp. 140).

The emergence of positive psychology in the 1990s marked the beginning of a large number of studies focused on people's happiness and life satisfaction as part of human well-being analysis. That event promoted the creation of *The World Database of Happiness* a database of studies accounting for people's perceptions of their own lives<sup>2</sup>. Moreover, some specialised journals started to be published such as *Social Indicators Research*, *the Journal of Happiness Studies* and, recently, *the Journal of Human Development of Capabilities* (Sandoval, 2014).

Reinforcing the scientific interest in SWB studies, several initiatives undertaken by international organisations and governments have also highlighted the relevance of including SWB as part of the political agenda. For example, in 2007 the Organisation for Economic Cooperation and Development (OECD) subscribed "the declaration of Istanbul", establishing the importance of incorporating new SWB measures beyond analyses based only on Gross Domestic Product (GDP) (OECD, 2007).

A second international initiative developed in 2009 by "The French Commission for Economic Development and Social Progress" and led by Joseph Stiglitz, Amartya Sen and Jean Paul Fitoussi focused attention on the

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<sup>2</sup>See details in <http://worlddatabaseofhappiness.eur.nl/>

same concern (Stiglitz et al. 2009). More recently, “The General United Nations Assembly”, promoted by Buthan’s government in 2011, also suggested subjective well-being measures as guidelines for public policy design and nations’ development programmes (General United Nations Assembly, 2011).

These initiatives have encouraged particular attempts at improving SWB data collection for policy purposes. For example, Bhutan has an official measurement called the “Gross National Happiness Index”, which is used for policy design and monitoring together with other objective measurements including GDP (Ura et al. 2012). The United Kingdom through the Office of National Statistics (ONS) has also developed a clear scheme to collect systematic SWB measures for policy purposes (Waldron, 2010). Other countries that have followed this trend in the last decade are Australia, Canada, Japan, Mexico and Chile (Castellanos, 2012); who have made efforts to introduce SWB indicators in their official statistics.

In the Chilean case, the inclusion of SWB as part of the political agenda was established by the first report led by The United Nations Development Programme (UNDP) in 2012 (UNDP, 2012). That great effort provided some guidelines for including SWB as part of the Chilean development programme. Moreover, an increasing number of studies focused on Chileans’ SWB have been published during the last decade. According to Farías et al (2015), 45 studies based on Chileans’ SWB were written between 2002 and 2013, showing a greater scientific interest in this issue. Furthermore, a question based on evaluations of global life satisfaction was included in 2011 in the Socioeconomic Characterisation National Survey (CASEN), one of the most important official national statistics sources for social policy design. Finally, some governmental programmes promoting happiness and healthy lives as the main goals, suggest that Chile is working on a wider understanding of well-being<sup>3</sup> (UNDP, 2012).

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<sup>3</sup> “Choose a healthy life”; “Chile grows with you” and “Happy old age” are some of the governmental programmes explicitly focused on people’s subjective well-being. See more details in the Chilean subjective well-being report (UNDP, 2012, Chapter 23, pp. 287-291).

The evidence mentioned underpins the idea that SWB measures might contribute to a wider understanding of human well-being that goes beyond economic indicators. The basic premise is that SWB analyses allow for evaluating other dimensions of human well-being, which are hidden in the most traditional objective measurements. An argument supporting that assumption is that traditional objective measures of well-being such as GDP, income per capita, life expectancy and access to basic services among others, are seen as “inputs”, in contrast to SWB measures, which are better understood as “outcomes” (Campbell, 1976; Andrews and Withey, 1976).

Whereas the traditional indicators are considered as the inputs or initial conditions to achieve human well-being, SWB measures are the results directly obtained from individual self-reporting. In this regard, SWB indicators offer a direct insight into people’s life perceptions and sense of well-being. Although the reliability of SWB questions has been criticised regarding aspects such as the design, timeframe and social desirability, several authors have defended their methodological reliability and importance of SWB for policy purposes (Diener et al. 1993; Diener et al. 1999; Eid and Diener, 2004; Dolan et al. 2011; Durayappah, 2011).

Another argument to support the inclusion of SWB measures is the evidence of some limitations of the traditional economic perspective applied to measure human well-being. There are three main paradoxes that SWB studies highlight regarding the economic theory and well-being association: “*The Easterlin Paradox*”; “*The Unhappiness Growth Paradox*” and “*The Paradox of Happy Peasants and Miserable Millionaires*”.

The Easterlin Paradox is the most recognised counter-argument against the assumption that higher nations’ incomes and wealth produce increases on people’s SWB. Richard Easterlin (1974) evaluated whether higher income leads to more happiness in the United States, and found that growth in per capita income does not reflect increasing happiness. In this regard, the association between income and SWB is far from linear, and is essentially flat for high levels of income. Later studies have shown the same trend in

most developed countries, showing that this is not a U.S. phenomenon (Blanchflower and Oswald, 2000; Frey and Stutzer, 2002; Clark et al. 2008).

The literature review suggests three Easterlin Paradox explanations. Firstly, people's *aspirations* systematically increase with their income, minimising future impacts of their income on their life satisfaction when their basic needs have been fulfilled (Diener et al. 1999). Second, people are able to adapt to changes in their income level without suffering greater effects on their subjective well-being. Finally, a third explanation argues that the impact of relative income on individuals' SWB is more important than their absolute income (Graham and Felton, 2006; Diener, 2012). This means that SWB is more influenced by personal socioeconomic perceptions in comparison with others, than by effective income. Life satisfaction and happiness might be influenced by variations in personal income, but even more relevant are fluctuations in these incomes experienced by individuals' reference groups (Rojas, 2008 cited by Castellanos, 2012, pp.150, Diener, 2012).

The second paradox supporting the relevance of the SWB component for broader well-being approaches is the "Unhappiness Growth Paradox". This proposes that SWB decreases when national per capita income increases. However, this situation only applies in those nations with a per capita income and economic growth (GDP) higher than the global average, i.e. excluding poor or low GDP countries (Lora, 2008, cited by Castellanos, 2012, pp.149). A possible explanation is that higher economic growth increases people's expectations and aspirations, influencing their evaluation of their life satisfaction and happiness (Graham and Felton, 2006). A second argument suggests that people's life domains are negatively influenced by living in contexts with greater economic growth. For example, labour market changes as a result of higher economic growth might reduce the time spent on leisure activities, with family and, friends, or other relevant life aspects for people's SWB (Graham, 2010).

Finally, "The Paradox of Happy Peasants and Miserable Millionaires" developed by Carol Graham (2009) argues that poor people and contexts

lead to higher SWB indicators than those expected for their income levels. Indeed, SWB has been shown to be higher among poorer people, which is contrary to the expected linear association between SWB and income (Graham and Pettinato, 2002). Poor people's ability to adapt to unfavourable material conditions supports this paradox. According to Graham (2009), individuals keep their life expectations and aspirations in balance with their material living conditions; therefore, poor people should be able to adapt to their negative material circumstances, and even feel happy or satisfied with some aspects of their lives.

Graham (2010) also found that this paradox is particularly strong in Latin American countries because higher SWB indicators are present in the poorest countries in the region. The findings from this work reveal that poor people assume that their conditions are stable, which limits their active role in searching for alternatives or a way out of poverty. This point is relevant to the discussion of Latin American countries to the extent that higher life satisfaction and happiness levels do not necessarily mean that nations are providing essential opportunities to promote people's well-being. Positive feelings and life evaluations might be related to an individual's adaptation processes rather than favourable contexts or effective policies for human development. This evidence is examined under a wider well-being conceptualisation underpinned in the Capability Approach (Chapter 7, section 7.1).

In addition to the counter-arguments regarding an expected positive relationship between SWB and economic growth, an important group of empirical studies have shown positive associations between people's SWB and other aspects subject to policy making decisions (Diener, 2012). Through this dissertation the relevance of SWB as a phenomenon socially influenced is defended and underpinned by empirical evidence. For example, some studies have found that SWB is positively correlated with some life aspects often covered through national public policies such as health, the labour market, political participation and social cohesion among others. For instance, Lyubomirsky et al (2005) detected that high SWB

predicts positive future health status and improves the quality of individuals' social lives. Similar positive influences of happiness on health conditions and longevity were found by Chida and Steptoe (2008).

Sonnentag (2015) offers a brief review of studies supporting positive associations between SWB and work. For example, higher productivity and performance are positively associated with people's happiness and higher life satisfaction is a greater predictor of personal initiative and proactive behaviour in the workplace. By contrast, burnout and lower health status perceptions are associated with higher labour absence over time.

SWB has also been shown to have positive impacts on desirable social behaviour and social engagement. For example, Aknin et al. (2011) found that higher life satisfaction is related to donating money to beneficial institutions. Priller and Schupp (2011) reported that people who are satisfied with their lives are more likely to donate blood and money even after controlling for income, education and employment. Boehm and Lyubomirsky (2008) concluded that happier people are also more sociable and likable. Likewise, Shin and collaborators (2011) found that positive feelings reported by children are related to successful interactions with peers and social adjustment.

In similar vein, Lyubomirsky and Diener (2005) state that happier or more satisfied people are also better citizens, who are better informed about politics and less radical in their views, and engage and involve themselves more often, promoting social participation and cohesion; therefore, SWB is likely to influence the functioning of social systems in still unknown ways, being both an outcome of social structures and a factor in their functioning.

Considering the evidence mentioned, it is important to include SWB data for policy purposes because SWB might provide insights regarding some aspects that are still unknown or hidden in common objective well-being, contributing to a broader well-being understanding. The most common assumption is that politicians and policy makers need to know not only about objective living conditions, but also about how people experience their lives. If public policies are aiming to achieve citizens' well-being as

part of their development goals, then SWB should be measured and incorporated in their design, monitoring and evaluation over time.

As the next section discusses, there is a psychological perspective that is used to conceptualise and measure SWB by positive psychology and centred at the individual level. However, an approach that has emerged from other disciplines such as economics and sociology proposes that SWB is a component of the broader development of nations and human well-being analysis. Both paradigms are discussed below, where their contributions and limitations regarding the present research are examined.

## **2.4 Subjective Well-being: Conceptualisations and Measures**

Well-being is considered subjective because people evaluate their own sense of wellness (Deci and Ryan, 2008); however, both SWB conceptualisations and measures vary depending on the theoretical approach assumed.

Through the literature review, two main theoretical approaches focused on SWB were found. The first is “*the positive psychological perspective*”, underpinned by Diener’s work (1984), through which SWB is understood as both the maximisation of positive feelings and life satisfaction (Hedonic) and overall psychological well-being achievement (eudaimonic). The second is “*the human development perspective*” developed by Amartya Sen and Martha Nussbaum (Nussbaum and Sen, 1996), and which is closer to the eudaimonic tradition, although it is framed in a wider development paradigm beyond a psychological perspective. Advantages and limitations of both perspectives are discussed below.

### **2.4.1 The Positive Psychological Perspective**

Initially, positive psychology (PP) was mostly focused on the individual characteristics, such as feelings, emotions and behaviours, which lead to human happiness. Studies based on this approach seek a better understanding of both the positive and negative emotions that influence people’s lives, such as feeling happy, involved, sad, stressed, etc. (Seligman, 2002, cited by Sandoval, 2014, pp.40). Subsequently, Diener (1984) expanded the SWB definition, introducing a cognitive aspect related to

people's evaluative perceptions of their own quality of life, such as life satisfaction, family life satisfaction, job satisfaction, etc. Currently, SWB studies under the PP perspective also evaluate overall psychological well-being, analysing those individual attributes that promote the maximum human potential involving characteristics such as personality, intelligence, self-esteem and resilience (Disabato et al. 2016).

Following philosophical conceptualisations proposed by Hobbes and Bentham (Cited by Ryand and Deci, 2001, p.144) psychologists have defined the pursuit of happiness and life satisfaction, maximising pleasurable experiences and reducing those that are disagreeable, as the hedonic dimension (Kahneman et al. 1999), while the actualisation of human potential and living in according with the true self is known as the eudaimonic dimension (Ryan and Deci, 2001).

A review of empirical SWB studies allows for concluding that hedonic and eudaimonic are two distinctive, but highly related dimensions that explain people's SWB. For example, based on a sample of 30,000 individuals in 21 European countries, Clark and Senik (2011) found a high correlation between the hedonic (life satisfaction and happiness) and eudaimonic (engagement, meaning and purpose, self-esteem, optimism, resilience and positive relationships). Nevertheless, the fit is not perfect because some individuals reporting higher eudaimonic scores also declared lower hedonic scores.

Similar results are supported by Vanhoutte (ESS Report, Round 6, 2013), who used data from the European Social Survey for 29 countries. Using a confirmatory factor analysis with a good fit, this study suggests that life satisfaction and happiness are related to the "hedonic factor", whereas feelings of freedom of choice and doing, a sense of accomplishment and a sense of a meaningful life linked on another factor close to eudaimonic well-being.

In a similar vein, Waterman (1993) found a higher correlation between personal expressiveness and pleasurable experiences in university students.

The first case, related to the eudaimonic dimension, was strongly associated with self-realisation indicators such as feeling challenged, competent, assertive, and having clear goals. By contrast, hedonic enjoyment was related to feeling relaxed, excited, happy, and losing track of time and forgetting problems.

Other studies have also empirically examined the existence of the hedonic and eudaimonic dimensions, and conclude that the “functionings in life” are related to, but, differ from, the “feelings towards life”. For example, Keyes and Annas (2009) reviewed a set of studies examining the existence of these dimensions in several samples. There is statistical evidence that the hedonic and eudaimonic aspects overlap among American adolescents, American college students and Black South Africans, nevertheless, there are cases in which higher eudaimonic well-being coexist with lower pleasurable experiences and vice versa. Keyes (2005) obtained similar findings when examining how four types of mental health categories interact with both the, hedonic and eudaimonic components. He observed that languishing people experience low hedonic and eudaimonic well-being, whereas flourishing individuals reported high levels of both. Nonetheless, around 45% of people with moderate mental health show disparate combinations of each one. That means that both SWB dimensions are overlapped, but there is not always a positive relationship between them.

The evidence mentioned above underpins a first hypothesis examining hedonic and eudaimonic as overlapped but distinctive SWB dimensions in Chile. Moreover and accounting for disparities within the Chilean population, it is also expected that both dimensions are affected by a set of demographic and socioeconomic personal characteristics in different ways (Chapter 5, section 5.1).

#### **2.4.2 The Hedonic as a dimension of subjective well-being**

Diener (1984) developed the most widely accepted conceptualisation of the hedonic aspect involving three key elements: positive and negative affections and life satisfaction. The first two are part of the *affective*

*component* of the hedonic dimension involving positive and distressed states such as feeling enthusiastic, active, alert, focused, pleasurably engaged, angry, disgusted, guilty, fearful, and anxious. Otherwise, life satisfaction is part of the *cognitive component* of the hedonic dimension, including self-reported evaluations in which individuals' assess their own life (Diener, 1984). Through this component, hedonic studies aim to provide a broader SWB analysis incorporating people's judgements on their overall life satisfaction or on specific life domains such as satisfaction with family life, work, place of residence, etc.

In reviewing the most prominent psychological scales measuring the hedonic dimension, it was observed that most of them include an evaluative component (life satisfaction) or an affective one (positive and negative feelings), but these are not usually together. For example, instruments such as "The Ladder of Life Scale" (Cantril 1965); "The Satisfaction with Life Scale" (Diener et al. 1985) and "The Life Satisfaction Research Questionnaire" (Hagedorn, 1996) were only focused on life satisfaction evaluations. Similarly, "The Happiness and Mental Health Index" (Fordyce, 1988); "The Subjective Happiness Scale" (Lyubomirsky and Lepper, 1999) and "The Short Depression- Happiness Scale" (Stephen, et al. 2004) put exclusive attention on happiness or on its relationship with other psychological issues (See appendix 2.1 for more details).

Perhaps, the extended hedonic measurements in the most relevant international well-being indices might be explained by the relative consensus measuring global life satisfaction and happiness through two standard questions (How satisfied are you with your whole life? and how happy do you feel?). That premise was evident in our review based on the most relevant international well-being measurements, concluding that life satisfaction and happiness are commonly present, although separately treated.

For example, The Happy Planet Index (Happy Planet Index, Methods Report, 2016), the overall Life Satisfaction Index (UNDP, 2015) and The Better Life Index (OECD, 2015) include "The Ladder of Life Scale" created

by Cantril (1965) as a measure of global life satisfaction. Contrarily, The World Happiness Index (Helliwell et al. 2017) seems to be the only international index focused on positive (average of happiness, laughter, and enjoyment measures) and negative (average for worry, sadness, and anger measures) affections, but excludes life satisfaction.

Although the scales mentioned above have acceptable psychometrics properties, the instruments are mostly focused on a particular component of the hedonic dimension rather than an integral measurement of affective and evaluative constructs; therefore the understanding of people's SWB is limited. For another hand, the hedonic dimension assumes that SWB is mostly an outcome of individual psychological processes, supporting that some human beings are more or less skilful achieving a pleasurable life.

Tackling with those limitations, this dissertation firstly provides a wider conceptualisation of SWB involving hedonic, but also other aspects such as having freedom for choose and meaning and purpose of life. Therefore, the classic hedonic indicators such as life satisfaction and happiness are included in the analysis, but also other aspects related to a more complex SWB understanding, going beyond the maximisation of pleasurable experiences (Chapter 5).

Additionally, we support the idea people's SWB cannot be understood as a strictly psychological phenomenon. SWB is also a social outcome, being influenced by the environment in which individuals live. In fact, an increased concern regarding including SWB in the governmental development agendas rests on the premise that SWB might be influenced by policy interventions, being more than an psychological state (Diener and Ryan, 2009; Dolan et al. 2011; Castellanos, 2012; Sandoval, 2014). This dissertation explores on how Chileans' SWB is impacted by their views of the Chilean society accounting for aspects such as their social trust and institutional confidence level (Chapter 6).

### 2.4.3 Eudaimonic as a dimension of subjective well-being

In contrast to the hedonic dimension which is focused on happiness and life satisfaction, the eudaimonic aspect is mostly associated with the development of human potential. The *eudaimonic approach* suggests that a good life is not just about the sum of pleasant events in a specific timeframe, but also positive functioning and personal development (Ryan and Deci, 2001; Galinha and Pais-Ribeiro, 2011; Cooke et al. 2016; Disabato et al. 2016).

Most of the studies focused on the eudaimonic component propose that human well-being is only reached when a set of basic psychological needs are satisfied (Ryan and Deci, 2000; Johnston and Finney, 2010). In this regard, a set of psychological characteristics are considered universal and essential conditions to reaching well-being. Although the type and number of psychological needs vary depending on the theoretical perspective used, that premise remains in most of the studies reviewed.

For example, Ryff (1989) was the first to introduce the concept of psychological well-being as reference to a set of individual features leading to wellness beyond positive life evaluations or affects. Using six existing scales measuring aspect related to affect balance, life satisfaction, self-esteem, morale, locus of control and depression, Ryff proposed a single psychological well-being scale. Using a factor analysis for each item included in the selected scales, a total of six psychological well-being dimensions were found. First, *self-acceptance* (having positive attitudes towards oneself, acknowledging and accepting multiples aspects of self including good and bad qualities and feeling positive about past life); second, *positive relations with others* (has warm, satisfying, trusting interpersonal relationships; is concerned about the welfare of others, capable of strong, empathy, affection and intimacy; understands give and take in human relationships). Third, *autonomy* (is self-determined and independent, able to resist social pressures to think and act in certain ways; self-evaluation of personal standards and behaviours); fourth, *environmental mastery* (competence in managing the environment; makes effective use of

surrounding opportunities; able to choose or create contexts suitable to personal needs and values); five, *purpose of life* (has goals in life, sense of directedness; feels there is meaning to their present and past life; holds beliefs that give life purpose; has aims and objectives for living) and finally, *personal growth* (has a feeling of continued development; sees self as growing and expanding their ability to develop their potential; is open to new experiences; sees improvement in self and behaviour over time; is changing in ways towards more self-knowledge and effectiveness).

Through this work, Ryff was a pioneer in introducing the relevance of measuring psychological well-being as a wider concept, associated with hedonic components, but also with positive functionings to achieve a better life. Although this scale has been criticised for its length<sup>4</sup>, some of the most used eudaimonic scales are based on the Ryff's work such as "The Flourishing Scale" (Diener et al. 2010) and "The Questionnaire for Eudaimonic Well-being" (Waterman et al. 2010).

Subsequently to Ryff's work, a broadly eudaimonic operationalisation was developed by Ryan and Deci (2000) under the Self-Determination Theory (SDT) umbrella. These authors proposed that people's subjective well-being depends on the fulfilment of three psychological needs: *competence* (feels effective and capable of performing tasks at varying degrees of difficulty); *autonomy* (has an internal locus of control evaluating personal well-being as effect of individual decisions and behaviours) and *relatedness* (has successful interpersonal relationships; feels safe and socially involved).

The main rationale behind Ryan and Deci's perspective is that feelings of autonomy, competence and relatedness flourish with intrinsic motivation. The later one is described as the inherent human inclination to explore one's capacities, to learn and undertaking challenges over life. In this case, intrinsic motivation is considered the principal source of enjoyment and vitality through life; therefore, any implication on people's SWB should

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<sup>4</sup> A shorter version with three items per subscale was created later by Ryff and Keyes, 1995; however, the internal consistency achieved was lower than the original Ryff's instrument (Cronbach's alpha 0.86-0.93 and 0.41-0.73 respectively)

firstly influence that construct. Contrary to Ryff's scale, there is not an empirical attempt by Ryan and Deci to evaluate how well these three dimensions fit in explaining psychological well-being.

A later contribution by Johnston and Finney (2010) evaluated Ryan and Deci's theory, generating the first scale based on competence, autonomy and relatedness as the main dimensions of psychological well-being. Using a higher education student sample, they processed a confirmatory factor analysis evaluating the construct validity of the scale, concluding that although these three dimensions are distinguished one each other, these are not enough to measure well-being broadly because a large amount of variance unaccounted for by the factors. Indeed, Ryff's scale accounting for six dimensions reached very good psychometrics properties, which decrease in a shorter version (Ryff, 1989). This evidence reinforces that SWB is a complex phenomenon and requires a diverse range of indicators to be accurately measured.

Further studies have followed concerns similar to Johnston and Finney, creating and evaluating the psychometric properties of scales based on the eudaimonic well-being component. One of the most recognised, for the reduced number of items and its good data fit, is "The Flourishing Scale" (Diener et al. 2010, 2010b). Contrary to "The Basic Needs Satisfaction in General Scale", Diener and collaborators designed a scale taking into consideration competence, autonomy and relatedness, but proposing only 8 items (Diener et al. 2010).

Similarly, Waterman and collaborators (2010) generated a questionnaire evaluating eudaimonic well-being as a separate factor from hedonic measures. Using CFA's on two student samples, they found acceptable items loadings on a single factor involving a total of 21 items. Moreover, they set up correlations higher than 0.40 with the psychological well-being scale by Ryff (1989), positive correlations with self-esteem and locus of control scales and negative associations with anxiety and depression measures (See appendix 2.2 for more details).

Comparing these instruments focused on eudaimonic well-being with those centred on a hedonic perspective in the previous section, the first ones get much more. The eudaimonic approach is closer to “human flourishing”, understood as a positive state related to having a meaning and life purpose, being positively engaged and making significant things for individuals. All of them explain psychological well-being wider than life satisfaction and happiness (Ryan and Deci, 2000; Hyde et al. 2003).

It is remarkable that the eudaimonic approach makes efforts to incorporate a “social well-being dimension” through the importance of being engaged, getting social support and contributing with others as the scales analysed do. Nevertheless, the eudaimonic approach seems to be far away from the rationale of subjective well-being as part of a nation’s development goals. That is because both hedonic and eudaimonic SWB components are centred on the individual’ psychology, omitting or minimising the impact of environmental influences. Although eudaimonic well-being offers a more complex understanding of people’s SWB, this perspective proposes that the presence of a set of psychological attributes are basic conditions for reaching well-being in people’s lives. Therefore, similarly than the hedonic approach, there are universal individual characteristics supporting people’s SWB beyond cultural differences or contextual influences. Considering those premises, human well-being is strongly associated with an almost biological or natural human condition, restricting the power of social policy to change people’s lives.

Tackling with that limitation, this dissertation goes from a simple to a more complex well-being understanding in Chile. Firstly, SWB is understood and measured as a multidimensional concept, involving both, hedonic and eudaimonic aspects; therefore we overcome those reductionist approaches based only on one SWB component. Secondly, using that multidimensional SWB concept, the impact of people’s societal view on their SWB is examined. In this regard, we reinforce the importance to study SWB as a sociological matter because people’s SWB is influenced by their social environment, going beyond those psychological and biological assumptions

in the current SWB studies in Chile. Finally, this dissertation moves from a SWB analysis to a well-being analysis involving both, SWB indicators and other objective measures commonly include in quality of life's studies. Using the capability approach as theoretical umbrella, this work improves the current knowledge about well-being in Chile, allowing a better future social policy design and evaluation.

#### **2.4.4 The Human Development Perspective**

As was first mentioned in this regard, there are two main theoretical approaches underpinning current SWB knowledge. The first is the “*positive psychology perspective*” through which life satisfaction, happiness and psychological well-being analyses are carried out. The second is the “*human development perspective*” under the umbrella of the “*Capability Approach*”, founded by Amartya Sen (1999), the “*capabilities approach*” as a variation of Sen's work by Martha Nussbaum (1996) and some later collaborators such as Alkire (2002) and Robeyns (2006). Moreover and because Sen and Nussbaum's approach currently underpins the work developed by *The United Nations Development Programme* (UNDP), it seems logical to keep them under this global perspective.

Contrary to hedonic or eudaimonic analyses centred on individual states of human well-being, the human development perspective proposes a different ontology. Firstly, individuals are active agents conducting their own lives beyond the pursuit of pleasures or positive feelings. Secondly, people's opportunities to achieve well-being depend on their personal decisions, but also on those favourable or adverse political, cultural and socioeconomic aspects of the societies in which individuals live. Finally, the human development approach fairly considers people's happiness and life satisfaction as the main human goals (Heylighen and Bernheim, 2000; Veenhoven, 2007, Schimmel, 2009 cited by Sandoval, 2014, pp.43) and proposes a holistic human well-being analysis based on both subjective and objective aspects of people's lives, offering an enriched framework for policy makers.

Taking into consideration that the human development approach differs of from the psychological perspective in terms of what well-being is and the role of policy making decisions, a brief review of the main concepts is discussed below, putting special attention on the Sen and Nussbaum proposals.

The Capability Approach founded by Amartya Sen offers a wider theoretical framework to assess individual well-being based on two main concepts: “*functionings*” and “*capabilities*”. Functionings are defined as “*the various things a person may value doing or being*” (Sen, 1999, p.75) such as a “having a healthy physical condition”, “being educated” or “having a satisfactory job”. Instead, capabilities are “*various combinations of functionings that the person can achieve. Capability is, thus, a set of vectors of functionings, reflecting the person’s freedom to lead one type of life or another...to choose from possible livings*” (Sen, 1992, p.40)

Taking distance from the psychological positive perspective, the Capability Approach conceives human well-being as a set of functionings that are combined for the individuals according to their own valuable goals. Therefore, this perspective gives an autonomous role to individuals choosing what they want to be and to do, action that Sen called “*agency*”. Moreover, the agency of people’s functionings always occurs “in context”, thus freedoms, social justice and inequalities given for the societies in which people live might expand or restrict human potential.

In that regard, human capabilities are also modelled by the political, cultural and socioeconomic contextual characteristics, offering a radically different way to understand well-being and policy thinking (Alkire, 2005; Robeyns, 2006; Binder, 2013; Sandoval, 2014). Through the literature review some arguments in favour of using this approach for policy purposes are highlighted.

First, the Capability Approach overcomes a common tendency in applied social sciences to analyse means of achieving quality of life instead of the human ability to promote a better life. Whereas an evaluation based on functionings achieved is more plausible from data available, analyses

focused on the real individual's opportunities and freedoms to choose their desirable lives are underpinned by Sen's framework (Robeyns, 2006; Deneulin and McGregor, 2010). In this regard, the Capability Approach is a powerful tool for national policy making due to its potential to empirically assess well-being. A focus on effective human freedoms and opportunities more than resources or material conditions lead to a new way to design and to monitor social policies. For example, evaluations on what kind of things make people healthier or what people do to make themselves healthier instead of an overall health status score. Putting attention on the process and not only on the outcomes might open unexplored alternatives to promote human well-being.

Second, Sen puts human freedom and the ability to make decisions as essential activities in achieving well-being. The freedom that an individual enjoys to be and to do valuable things is a core concept in his approach (Sen, 1999). In this line, policies should aim to expand people's freedoms and their opportunities to develop their potential. For example, the functioning "*being involved in the community*" can be promoted through social policies focused on increasing the number of social organisations; facilitating social participation by vulnerable groups such as disabled or older people and connecting people through programmes related to health promotion, labour training, leisure activities, etc. The main rationale behind this is that human well-being promotion requires an active governmental role as a generator of favourable conditions. Sen suggests that a person might choose not being integrated or connected with others; but that should be a personal decision, instead of an effect of no conditions given in the environment.

Finally, the Capability Approach is more than a theory, providing a useful framework to conceptualise well-being and other contemporary issues such as inequality and poverty (Alkire, 2005; Robeyns, 2006; Deneulin and McGregor, 2010). The capabilities are the result of individual functionings combined according to personal criteria; however, the opportunities to achieve them are also influenced by negative societal aspects. For example,

the existence or marginalisation or discrimination of specific groups could explain some persistent social inequalities or human “basic capabilities” deprivation might lead to poverty studies. A huge effort using the Capability Approach supporting poverty research is developed by the Oxford Poverty and Human Development Initiative (OPHI) led by Sabine Alkire.

Despite the advantages mentioned, the Capability Approach is mostly criticised for its vague differentiation between functionings and capabilities (Comim, 2005; Gasper, 2004) and its complex operationalisation (Martinetti, 2000; Alkire, 2002; Robeyns, 2006; Burchardt and Vizard, 2011; Binder, 2013; Dang 2014). Even Amartya Sen has declared that *“there are widespread doubts about the possibility of making actual empirical use of this richer but more complex procedure”* (Sen, cited by Robeyns, 2006, p.352). As a consequence of this empirical difficulty, researchers are unclear about what kind of questions could be answered using this approach, hesitating about its practical contribution.

Confronting that particular drawback, Robeyns (2006) suggests three theoretical specifications putting in practice the Capability Approach, the choice between functionings and capabilities, the selection of key capabilities, and the weightings assigned to each capability. According to the first specification, capabilities are preferable to functionings because they imply the existence of several functionings combined according to people’s needs and personal well-being notions. However, researchers confront practical problems in accessing accurate information and measurement constraints.

The second specification involves debates about the type and number of capabilities chosen. Even though Sen has refused to elaborate on a list of basic capabilities, defending the openness of his perspective, some essential “basic capabilities”<sup>5</sup> are remarked on his work (Sen, 1983; 1996). In

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<sup>5</sup> Commodities requirements for the development of capabilities should be: meet nutritional requirements; escape avoidable diseases; being educated; being sheltered; being clothed; being able to travel; living without shame; being involved in community activities; and having self-respect to be happy (Alkire, 2002).

contrast, Nussbaum (2003)<sup>6</sup> proposed a basic capabilities list as a tool to put into practice empirical studies based on Sen's work, recognising that it is a guideline rather than an exhaustive and universal list. At the international level two human development indices based on the Capability Approach are widely recognised, the "Human Development Index" (HDI) and some variations such as the "Inequality-Adjusted Human Development Index" (IHDI), the "Gender Development Index" (GDI), the "Gender Inequality Index" (GII) and the "Multidimensional Poverty Index" (MPI). Table 2.1 details how human development based on the Capability Approach has been operationalised.

Finally, according to Robeyns (2006) the third theoretical specification defines the type of aggregations and weights assigned for each capability chosen. Some decisions such as the type of unit of analysis; the predominance of theoretical or statistical assumptions for equal or different weights; and indices or separated capabilities analyses require clarification. This point is evaluated in the next section through an overview of some empirical well-being studies which put the Capability Approach into practice.

#### **2.4.5 Operationalising the Human Development Approach**

One of the most recognised indices under this perspective is the Human Development Index (HDI), published yearly by The United Nations Development Programme (UNDP) since 1990 at the present (Anand and Sen 1994). This index was created to emphasise that human development cannot be exclusively measured through the economic growth of a nation, including a "long and healthy life" and "knowledge" as additional dimensions to a "decent standard of living" measured by GDP.

Despite this improvement in measuring human development, the HDI has been criticised at least for two limitations. On the one hand, the HDI does not reflect the nation's disparities in terms of their income, health or

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<sup>6</sup> Basic Capabilities included in her list are: life; bodily health; bodily integrity; senses, imagination, and thought; emotions; practical reason; affiliation; other species; play; control over one's environment, Nussbaum (2011).

educational distribution; therefore, countries show similar scores which are highly different in distributional terms (Peterson, 2013). In fact, the Inequality-adjusted Human Development Index (IHDI) was created later as a response to that limitation (Alkire and Foster, 2010). On the other hand, the type and number of dimensions involved in this proposal have been considered insufficient and reductionist in measuring human development accurately (Bérenger and Verdier-Chouchane, 2007; Decanq et al. 2007; Stiglitz et al. 2009).

Subsequently, the HDI has accounted for inequality based on the Atkinson's index (1970) and explored differences in gender through the GDI and GII indices. The MPI is also a Human Development Index measuring poverty conditions through basic capabilities fulfilment for a decent life. Table 2.1 shows the dimensions and indicators elaborated on for each index mentioned, pointed out greater similarities between them.

**Table 2.1** Human Development Measurements Underpinned on the Capability Approach

	<b>Dimensions</b>	<b>Indicators</b>
Human Development Index (HDI)	Long and Healthy life Knowledge	“life expectancy at birth, using a minimum value of 20 years and maximum value of 85 years “Mean of years of schooling for adults aged 25 years”. “Expected years of schooling for children of school entering age”.
	Standard of living	“Gross national income per capita. The minimum income is \$100 (PPP) and the maximum is \$75,000 (PPP)”.
Inequality-adjusted Human Development Index (IHDI)	Long and Healthy life Knowledge	“Life expectancy at birth, calculated over age intervals”. “Mean years of schooling”.
	Standard of living	“Disposable household income or consumption per capita”.
Gender Development Index (GDI)	Long and Healthy life Knowledge	“Life expectancy at birth”. “Expected years of schooling”. “Mean years of schooling for adults ages 25 and older”.
	Standard of living	“Estimated earned income of the economically active population”/
Gender Inequality Index (GII)	Health	“Maternal mortality ratio”. “Adolescent birth rate”.
	Empowerment	“Share of parliamentary seats held by each sex”. “Attainment at secondary and higher education levels”.
Multidimensional Poverty Index	Labour Market Health	“Labour market participation rate”. “Nutrition: a household member (for whom there is nutrition information) is malnourished, as measured

(MPI)	by the body mass index for adults (women ages 15–49 in most of the surveys) and by the height-for-age z-score calculated based on World Health Organization standards for children under age 5”. “Child mortality: a child has died in the household within the five years prior to the survey”.
Education	“School attainment: no household member has completed at least six years of schooling”. “School attendance: a school-age child (up to grade 8) is not attending school”.
Standard of living	“Electricity: not having access to electricity”. “Drinking water: not having access to clean drinking water or having access to clean drinking water through a source that is located 30 minutes away or more by walking”. “Sanitation: not having access to improved sanitation facilities or having access only to shared improved sanitation facilities”. “Cooking fuel: using “dirty” cooking fuel (dung, wood or charcoal)”. “Having a home with dirt, sand or dung floor”. “Assets: not having at least one asset related to access to information (radio, television or telephone) or having at least one asset related to information but not having at least one asset related to mobility (bike, motorbike, car, truck, animal cart or motorboat) or at least one asset related to livelihood (refrigerator, arable land or livestock)”.

Source: Prepared by the author based on technical notes, Human Development Report, 2016.

In seeking to overcome that reductionism, several studies have proposed a set of dimensions to measure well-being underpinned by the Capability Approach. For example, Bérenger and Verdier-Chouchane (2007) conducted one of the pioneer studies creating a multidimensional well-being index based on Sen’s work and macro-data-set. They measured well-being through two dimensions, standard of living and quality of life across 170 countries focusing on health, education, material well-being and environmental indicators.

Similarly, attempts have been undertaken based on a specific micro-level analysis. For example, Martinetti (2000) evaluated well-being inequalities in Italy according to five dimensions: housing; health conditions; education and knowledge; social interactions and psychological conditions. Moreover, she evaluated well-being disparities according to sex, age; geographical area; marital status; work status and occupational group. Some findings revealed similarities with income-based approaches such as lower well-being in the elderly, poor and less educated people. Nonetheless, the worst

evaluations were associated with non-material dimensions such as social interactions and knowledge; reinforcing the relevance of including capabilities beyond the basic material life aspects.

Otherwise, using the Panel Study of Belgian Households, Lelli (2008) examined well-being regional disparities according to seven dimensions: social interactions; economic status; health; cultural activities; shelter, psychological distress and working conditions. The wider range of information provided a more precise picture of Belgian's living standards, but also specific inputs on the most deprived social groups (unemployed, housewives, retired and divorced). In this regard, Lelli's work offers a good methodological exercise putting into practice the Capability Approach, then, policy design might also be better informed with these kinds of findings.

In the same vein, Roche (2008) created an index particularly centred on living conditions. Using household surveys applied in Venezuela, Roche composed an adequacy housing index (AHI) based on three dimensions: housing services, housing structure and housing space and density indicators. Aiming to evaluate housing inequalities among social groups and territories, the AHI was a useful tool in informing policy makers on housing well-being disparities taking place in Venezuela.

A different methodological approach was taken by Krishnakumar (2007) who, by processing data from UNDP, World Bank and foreign policy indicators, created an aggregate capability index (ACI) based on three dimensions: knowledge, health and political freedom and a group of national exogenous variables. Krishnakumar found differences between the measure created and both, HDI and GDP. The Chilean case particularly ranked better in HDI than ACI and lower in GDP than HDI. The best score was for health, followed by knowledge and political freedom respectively. Moreover, Chile was always classified in the top ten group for all the dimensions covered, compared with other Latin American, Asian and African countries.

A completely different approach to monitoring the basis for equality and human rights in Britain has been undertaken by Burchardt and Vizard

(2011). Through this work, a preliminary list of ten capabilities based on the International Covenant on Civil and Political Rights (ICCPR) was evaluated by deliberative consultation using in depth interviews on a wider sample in terms of age, disability, ethnicity, gender, religion, sexual orientation, transgender, social class, etc. According to the authors, a qualitative approach allowed them to expand the previous theoretical framework, providing a powerful foundation for monitoring equality and human rights in Britain. This is the only relevant qualitative study linking subjective indicators into a wider well-being analysis.

According to my review, most of the well-being studies underpinned by the Capability Approach are based on quantitative multivariate analysis. The Fuzzy Set Theory (FST) has been incorporated as a better aggregation method monitoring functionings according to the degree of achievements rather than their presence or absence. Principal component analysis (PCA) and factor analysis of correspondences (FAC) have also been used to assign weights to each functioning according to natural data organisation instead of default assigned weights and to a lesser extent, the structural equation model technique operationalising the Capability Approach (See more details in APPENDIX 2.3).

Regarding the dimensions involved, there are similarities in including health, education and housing conditions variables as part of the basic functionings monitored. It is also common to evaluate the impact of a set of individual or national control variables on the dimensions covered. It is relevant to note that the incorporation of subjective indicators related to psychological conditions or self-life evaluations are incorporated for a few studies (Martinetti, 2000; Lelli, 2008), showing that an integral approach still needs to be worked. Through the next section, some attempts for understanding human well-being linking both objective and subjective indicators are presented under a new perspective known as Subjective Well-being Capabilities.

#### **2.4.6 Bridging the Gap: Subjective Well-being Capabilities (SWC)**

Some studies focused on well-being have undertaken a new paradigm mixing the strengths of both approaches, the classical perspective from positive psychology (PP) and the philosophical foundations of the capability approach (CA). The synergy between them is underpinned by some intersection points despite their ontological differences (Anand and Clark, 2006; Comim, 2005; Binder 2013). This is the approach underpinned in the third empirical chapter worked through this dissertation (Chapter 7, section 7.1).

According to Comim (2005) a better understanding of the synergy between both perspectives also requires researchers to be conscious about their differences. He recognises three differences at least. First, whereas CA reinforces human well-being as a dimension of moral thought and political philosophy, the PP approach considers well-being as a psychological and even biological human aspect. Second, CA puts special attention on “autonomy”, “freedom” and “agency” as intrinsic human well-being values while the PP assesses the impact of multiple factors on SWB without an exclusive emphasis. Finally the approaches have opposite views about the role of adaptation in achieving well-being. The CA considers adaptation as a negative process through which individuals habituate to adverse circumstances. Conversely, the PP perspective assumes the adaptation as a positive individual feature through which people overcome negative events and increase their SWB.

Despite those differences, recent studies have explored a subjective well-being analysis enriched by recourse to the capability approach (Anand et al. 2005; Anand and Van-Hees, 2006; Anand et al. 2009; Anand et al. 2011): the “Subjective Well-being Capabilities Perspective” (SWC). The bridge between both perspectives is supported by the SWC based on some intersecting points between them. For example, both perspectives understand human well-being based on people’s emotions and evaluations on their lives. Moreover, both consider well-being as a complex construct that might not be measured by isolated indicators such as life satisfaction or

happiness without referencing to others psychological and contextual indicators (Comim, 2005).

The SWC emerges as a new promising field of well-being research based on the connections between original perspectives. On one hand, the capability approach considers some subjective indicators as good quality of life measures, only if these are part of a wider capability set. On the other hand, the PP perspective also contains measures highly consistent with the CA foundations such as intrinsic motivation, civil commitment, personal growth and social interactions as indicators of a happy life (Van Hoorn et al. 2010). Taking into consideration that convergence between both, the SWC allows a combination of subjective and objective well-being indicators, promoting their triangulation rather than a competition (Anand and Clark, 2006).

Based on the idea that an integrative well-being paradigm is possible, some studies have put it in practice. Binder (2013) reviewed some studies interested in bridging the gap between both approaches finding two streams. First, the inclusion of insights of SWB research into the CA approach, for example involving “being happy” indicator as a functioning in a wider capability set. The second stream has assessed the impact of capabilities on people’s SWB, for instance the capability “healthy life” on feelings of happiness.

The first line has been explored as a result of the recommendations suggested by the “*Stiglitz Report*” (2009) searching for a well-being analysis beyond GDP<sup>7</sup>. The “*OECD guidelines on measuring subjective well-being*” published in 2013 also proposed accounting for SWB as one of the components to a more complex well-being analysis<sup>8</sup>. In practical terms, that means that several SWB measures (hedonic and eudaimonic) are part of a set of indicators conforming to human capabilities. No causal effects are evaluated at this level.

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<sup>7</sup> <http://ec.europa.eu/eurostat/documents/118025/118123/Fitoussi+Commission+report>

<sup>8</sup> <http://www.oecd.org/statistics/oecd-guidelines-on-measuring-subjective-well-being-9789264191655-en.htm>

By contrast, a second stream tests the impact of a set of capabilities on people's subjective well-being, overall life satisfaction being the most explored indicator (Binder, 2013). A recognised work following this perspective has been developed by Paul Anand and collaborators, finding significant impacts of specific capabilities on people's life satisfaction.

For example Anand et al. (2005, 2009) explored the impact of a set of capabilities<sup>9</sup> (Nussbaum's list) on people's life satisfaction based on a representative sample of employed individuals in Great Britain. Using OLS regression analysis and controlling for a set of socio-demographic variables<sup>10</sup> and personality traits<sup>11</sup>, a total of 17 capability indicators showed significant influence on life satisfaction<sup>12</sup>. The authors found that life satisfaction is highly multivariate in respect to the capabilities, being influenced by bodily health, bodily integrity, emotions, practical reason, affiliation and control over one's environment. Moreover, lower life satisfaction was reported by people living without a partner and being unemployed.

Subsequently, Anand et al. (2011) explored the effect of some capabilities on adults' life satisfaction in Argentina also controlling for socio-demographic and personality traits. The set of capability indicators covered ten domains<sup>13</sup> analysed through a generalised linear latent and mixed model

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<sup>9</sup> life (measured by life expectancy subjective evaluation); bodily health (health limits daily activities, reproductive health, adequately nourished, adequate shelter), bodily integrity (safe during day and night, previous and future violent assault, previous and future sexual assault, previous and future domestic assaults, sexual satisfaction, reproductive choice); senses, imaginations and thought (education attainment, frequently uses imagination, political expression freedom, exercise religious freedom, enjoy day to day activities); emotions (make friends, family love, express feelings, lost sleep, under strain); practical reason (concept of good life, plans life, useful role in the life); affiliation (respect others, takes holidays, meets friends, thinks of others' lives, feels worthless, past and future discrimination: racial, sexual, religion, age, sexual orientation); other species (concern for other species); play (enjoys recreation); control over one's environment (participate in politics, owns home, past and future discrimination at work: racial, sexual, religious, age, sexual orientation, expect stop and search, skills used at work, useful role at work, relate to colleagues, respected by colleagues).

<sup>10</sup> Gender, age, household, income, South, Midlands or South of England and Scotland

<sup>11</sup> Agreeable, Conscientious, Emotionally stable, Extravert and Open to experiences.

<sup>12</sup> Life satisfaction with overall life (scoring 1 "not satisfied at all" to 7 "completely satisfied")

<sup>13</sup> Capabilities were: Health; Freedom and political expression; Freedom of religion; Freedom of imagination and thought; Emotional capabilities; Security; Environment and social relations; Housing; Work, Discrimination. Indicators included in each capability set

(GLLAMM). Similarly than the previous studies, significant effects on life satisfaction were found. Particularly, positive impacts of empathy, self-esteem, goal autonomy, safety and negative ones from discrimination and stress.

Although studies based on the SWC are still new, the combination of two approaches opens an exciting field of research. Considering that suited data for applying capability approach is one of its main drawbacks, SWB measures (increasingly commons in national surveys) might be an opportunity to improve future well-being studies.

Using the SWC as theoretical umbrella, this dissertation examines well-being in Chile from the perspective of people's functionings for achieving a better life, instead of the absence of material deprivation as the dominant paradigm for understanding well-being in Chile (Chapter 4, Section 4.2). In the chapter 7, this dissertation builds a multidimensional well-being concept linking both, objective and subjective indicators and given them equal relevance into the analysis. Contrasting with the chapter 5 in which SWB is analysed as multidimensional, but isolated concept, the chapter 7 proposes an integrated analysis of SWB indicators and health, economic and material living conditions together.

Additionally, this dissertation also examines how well-being is distributed within the Chilean population. As the Capability Approach supports, it is expected that some individual endowments and contextual aspects related to the society in which Chileans live lead to unequal opportunities to reach a better life. Through the next section some predictors of well-being discussed in the literature are presented in order to illuminate potential sources of well-being inequalities evaluated in each empirical chapter.

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are the same measured in the previous study (Anand et al. 2005), but these have been re-organised in the capabilities mentioned. Socio-demographics and personality variables are also similar.

## **2.5 Predictors of Well-being**

This section firstly discusses those predictors of SWB commonly assessed by the positive psychological perspective, followed by those predictive factors monitored by the capability approach.

### **2.5.1 Bottom-Up versus Top-Down predictors**

Ed Diener (1984) was one the first researchers to introduce the distinction between contextual and individual factors as predictors of both people's life satisfaction and happiness. Theoretically, that distinction is known as "*bottom-up*" and "*top-down*" factors.

The bottom-up perspective proposes that some contextual and demographic factors have an impact on people's life experiences and happiness. Common predictors used under this approach are age, sex, marital status, parenthood, educational level, income level and occupational status among others. Conversely, the top-down perspective is interested in the effect of psychological characteristics on an individual's SWB, such as personality, self-esteem and depression (Headey et al. 1991; Diener et al. 1999; Diener and Ryan, 2009; Galinha and Pais-Ribeiro, 2011).

Empirical findings on the impact of bottom-up predictors on SWB have shown some trends. In terms of age, youth and older life stages are strongly consistent predictors of happiness instead of individuals in the middle-age (See Dolan et al. 2008 for a review; Diener and Ryan, 2009; UNDP, 2012). Particularly, a lower life satisfaction in the mid- age group is associated with greater responsibilities as workers, having dependants and the resignation to not having completed some youthful dreams and expectations. Additionally, Deaton (2008) also found that life satisfaction rapidly decreases through age in poorer countries compared to those that are more prosperous because a material standard of life acquires a greater importance over people life courses.

SWB differences by sex suggest that women are slightly happier than men, although the differences disappear when other control variables are added (Alesina et al. 2004 cited by Dolan et al. 2008). Other differences found

suggest that women tend to report both extremely positive or negative SWB states and more intensive emotions than men (Diener et al, 1999).

Marital status, parenthood and religion have also received attention as predictors of SWB at the individual level. The findings argue that SWB is higher in married than single people because economic, social and emotional support from sharing life with others increases SWB (Diener et al. 1999; Helliwell and Barrington-Leigh, 2010). Moreover, data also suggests that married people are more satisfied with their lives than separated people due to the negative emotions and depressive feelings suffered before or after the separation (Diener et al. 1999; Lucas, 2005). A cross-national analysis revealed that married people are always happier than single, separated and widowed people across the countries evaluated (Diener, 1984; Diener, et al. 1999).

In contrast, the impact of having children on SWB is mixed and diverse across countries. Haller and Hadler (2006) found that children have a non-significant impact on happiness, but a positive and significant impact on life satisfaction controlling for income and financial satisfaction. Other studies suggest that SWB is negatively affected for single parents; divorced mothers with children over 3 years old or when the families have experienced life events such as poverty, illness and change of residence (Dolan et al, 2008 for a review).

Religious people are also happier than those who do not practice a religion. The main explanations are that religion might increase feelings of control and security, intimate meaning and life purpose and reliable social networks (See Diener and Ryan, 2009 for a review). At cross-national level, the findings are unclear, because Europeans show a lower religion SWB association than African and Americans. Moreover, some of the most religious nations also report very low SWB, in contrast with no-religious societies (Argyle, 1999 cited by Diener and Ryan, 2009, pp.397).

In addition to demographic aspects, some socioeconomic characteristics related to people's educational attainments, occupational variables and income are common bottom-up predictors. Some studies support a higher

education and SWB association because being educated positively influences some psychological attributes such as self-efficacy, self-esteem and coping strategies confronting adverse events (Blanchflower and Oswald, 2004). In other cases, analysis of SWB controlling for education, health and income have found higher correlations between them (Diener and Ryan, 2009). Research focused on occupational variables suggests that being unemployed has a negative impact on SWB even after re-employment (Lucas et al. 2004; Clark, 2010). In contrast, the impact of being self-employed versus employed and the effect of full versus part-time jobs on SWB are unclear and require further research (Dolan et al. 2008).

Finally, an effect found in several studies suggests a positive impact of income on SWB, especially in undeveloped nations, whereas life satisfaction leads to a drop at the highest income groups in developed countries (Dolan et al. 2008; Diener and Ryan, 2009). Howell and Howell (2008) found that income is a critical means through which people satisfy their food, clothing and shelter needs, meaning their SWB is indirectly affected. Nevertheless, in prosperous nations in which people's basic needs are highly fulfilled, the importance of income is less significant than in poor or developing countries with lower material standards of life.

Similar findings support a strong association between higher income levels and higher life satisfaction (Diener et al. 2010; Kahneman and Deaton, 2010). At the national level, increases in national average income show a positive effect on life satisfaction, being higher in countries with a high GDP (Deaton, 2008; Ng and Diener, 2014). Moreover, Inglehart and collaborators (2008) argue that developed countries are not only higher in life satisfaction, but also happier than less economically developed societies.

Recent research suggests that income is a significant predictor of the evaluative component of SWB; however, the affective dimension is better explained by social and psychological predictors such as social support, safety, trust in institutions, feelings of freedom and opportunities for self-development (Diener and Ryan, 2009).

Conversely, top-down studies have emphasised how SWB is predicted by intrapersonal factors such as personality, intelligence, having a meaning or purpose in life, being optimistic in coping with adverse life events and having a higher adaptation ability (Diener et al.1999). Mixed studies predicting SWB through bottom-up and top-down factors have found greater impacts on SWB from intrapersonal psychology than demographic and socioeconomic aspects (See for example Campbell, 1976; Andrews and Withey 1976). Having an extrovert personality, reduced gaps between personal goals and achievements and higher adaptation ability have shown positive effect on people's life satisfaction and happiness (Diener et al. 1999; Diener and Biswas-Diener, 2000; Galinha and Pais-Ribeiro, 2011)

Some studies have also suggested that life events and socio-demographic changes produce a short-term effect on SWB while personality impacts on people's long-term well-being (Diener et al. 1999 for a review; Galinha and Pais-Ribeiro, 2011). In contrast, other researchers are more cautiously, highlighting that some life events might also produce a long-term SWB effect such as a decline in living conditions to below a minimum level of satisfaction of basic needs (Veenhoveen, 1996); long-term unemployed status or an unexpected marital status change (Diener and Ryan, 2009; Helliwell, 2003; Helliwell et al. 2009).

Other studies have concluded that the evaluative SWB component is well explained by bottom-up predictors instead of the affective dimension which is mostly affected by top-down variables. For example, Ng and Diener (2014) found that income and financial satisfaction accounted highly for life satisfaction's variance, while happiness was mostly explained by predictors such as feeling respected and being autonomous. Schimmack and collaborators (2008) found that people's happiness measured by positive/negative affects is highly predicted by personal attributes such as having an extroverted personality and social engagement skills, whereas it is lowered explained by demographics characteristics such as sex and age.

Taking into consideration that life satisfaction evaluations are more explained by bottom-up predictors and happiness by top-down factors,

many researchers defend the importance of using them as separate dimensions. In the same line, global life satisfaction measures have been shown to be less correlated with contextual factors than specific measures based on satisfaction by life domains (Diener, et al 1999); therefore, the use of several and more specific SWB indicators is highly recommended, especially for policy purposes (Layard, 2010, Diener, 2012; Dolan and Metcalfe, 2012; Krueger and Stone, 2014). Accounting for the recommendations mentioned, the present research analyses both life satisfaction and happiness as single indicators on SWB as well as part of a hedonic dimension (Chapter 5, section 5.3).

Taking advantage of the information available for the Chilean case, a set of demographics and socioeconomic variables were treated as predictors of life satisfaction and happiness (Chapter 5, section 5.3). Nevertheless, it is important to note a relative uncertainty about what variables are causes and what are effects (Headey et al. 1991; Diener et al. 1999; Diener, 2012; Sonnentag, 2015). Although demographic individual variables, living conditions, wealth and social support have been commonly treated as predictors of SWB (Headey et al. 1991; Dolan et al. 2008; Galinha and Pais-Ribeiro, 2011; Ng and Diener, 2014) current researchers have argued that some causal directions remain unclear and therefore, further research should be explored (Layard, 2010; Diener, 2012).

Despite that evidence, the present dissertation was focused on a set of predictors for SWB for the following reasons. Firstly, although SWB in Chile has increased during the last decade, there is a strong focus on hedonic predictors instead of a wider range of SWB indicators; therefore, a good starting point identifying other potential predictors of SWB makes sense. Secondly, studies interested in the outcomes of SWB are usually based on long-term data, analysing differences between individuals or SWB interactions with other life aspects within individual trajectories (Gadermann and Zumbo, 2007; Plagnol, 2010; Diener, 2012; Sonnentag, 2015). For both, longitudinal data or a large number of periods covered are preferable in order to test the long-term consequences of SWB. As our case

study does not provide such information, a focus on predictors of SWB was chosen. Finally, Chilean social policy is applied to priority groups, such as age, sex and socioeconomic groups (MIDEPLAN, 2015), thus a SWB analysis differentiated by the impact of those individual characteristics seems pertinent and desirable.

### **2.5.2 Societal Predictors of Subjective Well-being**

A review of the literature linking individual SWB with specific characteristics of the society in which people live reveals two main approaches. The most common approach has been cross-national studies examining the interaction between well-being indicators at the national level with SWB indicators at the individual level. A second approach evaluates the association between perceptions based on one's subjective well-being and judgements towards the society in which people are involved. This dissertation is particularly focused on the second perspective; nonetheless, empirical evidence for both is discussed briefly below.

It should be noted that a greater interest in measuring the impact of context on SWB is related to overcoming those analyses supporting SWB as a matter exclusively at the individual level. For both lines of study, people's feelings and experiences cannot be understood separately from specific societal conditions and contextual changes.

Several cross-national studies support empirical evidence confirming the effect of macro-social conditions on people's SWB. According to Dolan et al. (2008) common contextual predictors of SWB are economic development, the political system, environment, safety, deprivation and urbanisation. Studies evaluating the impact of some nations' features have found a positive impact on people's SWB from countries with strong social support, even controlling for wealth and religion (Oishi and Schimmack, 2010), higher life satisfaction in nations with greater social participation and decentralised policies over territories (Frey and Stutzer, 2002; McGillivray, 2007), higher SWB in democratic countries controlling for income (Inglehart and Klingemann, 2000) and people living in individualistic

societies in which autonomy and freedom of choice are valued (Fisher and Boer, 2011).

Other contextual effects on SWB have considered the impact of geographical locations on people's life satisfaction and how living in contaminated and insecure areas negatively influence SWB. While some studies suggest that living in large cities is detrimental to life satisfaction in contrast to a life in rural areas and small cities, other results have not found a significant relationship between SWB and population density. (See Dolan et al. 2008 for a review). Conversely, there is a relative consensus about the negative impact of living in unsafe or deprived areas on life satisfaction (Shields and Wheatley Price, 2005; Lelkes, 2006; Ferrer-i-Carbonell and Gowdy, 2007) and the effect of environmental problems such as pollution, extreme weather and climate change (Rehdanz and Madison, 2005; Ferrer-i-Carbonell and Gowdy, 2007).

In contrast with the emergent research on the association between the environment and SWB, the effect of economic variables on SWB is mostly presented in the literature review. Economic growth, national income, inflation, unemployment rates, economic recession and income inequality are widely discussed. For example, studies focused on positive effects on people's happiness in countries with higher economic growth were initially assessed by Easterlin (1995) and supported later by similar studies (Diener and Suh, 1997; Oswald 1997; Diener and Oishi, 2000). Higher life satisfaction and happiness have been also reported in people living in nations with higher GDP in contrast with the poorest societies (Deaton, 2008; Inglehart et al. 2008).

Some authors support that a nation's income and wealth positively impact on SWB because basic needs are met as a result of better economic performance (Inglehart, 1990; Clark, et al. 2008). However, positive associations between economic growth and SWB at a national level should be cautiously analysed. For example, the richest countries also tend to be more democratic, equalitarian and individualistic, therefore other positive

aspects present in wealthier nations might explain SWB variations rather than the direct effect of national income or GDP by themselves.

Another regular outcome found in the literature is that national income is a stronger predictor of people's life satisfaction because higher incomes are usually related to greater average life satisfaction (Diener et al 1999; Graham and Felton, 2006). In contrast, happiness has been shown to be better predicted by personality and having meaning and purpose in life; however, income is a non-significant predictor of this SWB component (Diener et al. 2010; Tay and Diener, 2011; Diener, 2012).

Additionally, a negative impact on SWB has been found by exploring national unemployment rates and inflation in the US (Alesina et al. 2004) and in Europe (Di Tella et al. 2003). In the same line, income inequality has been one of the most covered economic issues associated with SWB in the literature and contrarily to an expected negative effect on people's SWB, the results are diverse and not conclusive (Schneider, 2016).

The current evidence supporting the negative effect of income inequality on SWB suggests that equalitarian societies create social justice and a harmonic context in which individuals are able to achieve their goals (Diener and Diener, 1995). Instead highly unequal societies may lead to social problems such as high levels of crime and violence and political conflicts (Haller and Hadler, 2006). Otherwise, the *livability hypothesis* introduced by Veenhoven and Ehrhardt (1995) and Edrhardt et al. (2000) supports that a higher income inequality negatively influences good fit between individual needs and institutional provision to satisfy human needs. In that context, people's SWB is damaged when a nation is not able to cover basic population needs due to an unequal income distribution.

Other researchers have found that unequal income distribution reduces social support outside the family and community involvement, negatively affecting people's SWB because of lower social inclusion (Choe, 2008; Brush, 2007; Kelly, 2000). It has also been hypothesised that income inequality may push individuals into higher social competition and social

class differentiation, producing feelings of anxiety and dissatisfaction, especially in disadvantaged groups (Wilkinson and Pickett; 2009). Similarly, Delhey and Dragolov (2013) found that income inequality decreases social trust and increases status anxiety. Alesina et al. (2004) also found that unequal societies lead to reduced opportunities for social climbing, negatively affecting people's life satisfaction because the context is perceived as unfair.

Particularly in the Latin American context, Graham and Felton (2006) found that income inequality has a negative impact on happiness because it is a signal of persistent unfairness in the region. According to the authors, people in Latin America perceived higher income gaps between wealthier and poorer as indicators of injustice and lower social climbing opportunities.

Contrary to the findings mentioned, other studies support a positive influence of income inequality on people's SWB in specific contexts. One conclusion is that income inequality produces differentiated impacts on SWB depending on the particular country's economic development. For example, Kelley and Evans (2017) evaluated the effect of income inequality (measured by the Gini coefficient) at the world level on SWB controlling for GDP and GINI. These researchers found that people's SWB rises with growing GDP per capita in developing nations; nevertheless, in people living in developed nations, SWB is not affected by further increases in GDP. Similarly, Haller and Hadler (2006) found a positive impact of income inequality measured by the Gini coefficient at the world level on life satisfaction and higher happiness levels in the most unequal countries. Helliwell and Huang (2008) revealed a positive association between income inequality and life satisfaction but only in countries with lower GDP and bad systems of governance.

A common factor between the studies mentioned above is the interaction between variables at the national level with SWB measures at the individual level. Most of them applying a multilevel analysis searching for those characteristics at the national level which make a significant difference to

people's SWB, usually measured by life satisfaction or happiness as aggregated indicators.

Those kinds of studies have been promoted by the existence of reliable world open access databases such as The Gallup Survey, World Values Survey (WVS), Eurobarometer, European Social Survey (ESS) and World Bank Database among others. Particularly, interactions between national indicators and SWB individual perceptions have been widely carried out using the WVS because individual data can be clustered by country, facilitating analyses on different levels.

Using WVS, this dissertation follows a different way of exploring the association between those evaluations that individuals complete concerning their lives with those individuals' perceptions towards Chilean society. The hypothesis examined here is that good evaluations of the social context in which people live are also positively associated with favourable SWB states.

A literature review exploring that thesis shows a stronger link associating the level of confidence in institutions with people's life satisfaction (UNDP, 2012, Sánchez et al. 2017). The rationale behind it is that opportunities in society are supported and managed by specific institutions; therefore, a positive evaluation of their performance should be positively correlated to higher SWB. In other cases, people's trust in institutions has been used as a proxy measure of social malaise, because lower confidence in the main social control entities should negatively impact the feelings, thinking and acting of individuals (Hudson, 2006; Aschauer, 2014; Elchardus and De Keere, 2013; Shankaran, 2013).

Using data for a sample from the US complemented with data from the WVS, Ciziceno and collaborators (2018) found that life satisfaction is negatively affected by perceived corruption when institutional trust is mediating that association. Nevertheless, they also reported a direct negative effect of lower confidence in institutions on people's life satisfaction. Similar results have also been evidenced by Chang and Chu (2006) who suggest that perceived corruption is detrimental to people's trust in institutions because it means an unfair public goods management. Similarly,

Frey and Stutzer (2000) stated that life satisfaction is positively influenced when people feel that their rights are protected by the existing institutions.

Using data from Eurobarometer, Hudson (2006) examined the impact of institutional trust on happiness in a sample of European countries. He found a positive impact of political institutions on happiness in contrast to other social, labour and economic organisations. Likewise, Aschauer (2014) also highlighted a significant association between institutional trust and a positive societal well-being measured by life satisfaction, happiness, freedom at work, satisfaction with society, personal trust, and perceptions about discrimination and personal safety. Nevertheless, he also found that the impact of political institutions on societal well-being is significant, but weaker compared with personal trust, the strongest predictor.

Consistent findings are reported by Hooghe (2011) in analysing the association between individual SWB and views on society in a sample of the Belgian population. He found that a positive generalised trust in society strongly explains an overall positive view on society. Moreover, he also found a positive, but weaker impact of societal trust on individual SWB, concluding that people's views on society and individual SWB are different constructs explaining overall well-being.

Another line of studies associating individual SWB with one's view on society have been focused on how some characteristics of modern societies affect people's life satisfaction and happiness, finding contradictory results. On one hand, a conservative perspective argues that modernisation leads to individualistic societies, decreasing people's SWB because individual rights are in conflict with the needs of the community. As a result, individualism would destruct relevant social institutions such as family and neighbourhood (Etzioni, 1993) and increasing rates of homicide, suicide, delinquency and other behaviours associated with mental disturbance (Naroll, 1983; Jenkins et al. 1991).

Conversely, a liberal approach objects that individualistic societies promote amoral and selfish behaviours. In fact, studies have shown that social involvement and moral responsibility are encouraged by a strong identity,

self-esteem and self-actualisation, all intrinsic characteristics of modern societies (Waterman, 1984; Veenhoven, 1999, 2005).

Analysing the association between happiness and individualism in 43 nations in the early 1990's, Veenhoven (1999) found that people living in individualistic societies are happier than those living in contexts with lower adherence to individualistic values (Hofstede and Schwartz values scale), opportunities to choose (political, economic and personal freedom) and capability to choose (educational attainment and access to diverse informational sources). Moreover, Veenhoven suggested that the positive effect of individualism on happiness is even greater in developed rather than poor countries. Later in a similar study based on 143 nations, Veenhoven (2010) reported the same association.

Using data from the WVS and accounting for the first four waves, Li and Bond (2010) found that before the 90's, people with opposite values to traditional institutions and normative prescriptions showed lower life satisfaction across all societal contexts; nevertheless after the 90's, individuals living in developed countries reported higher life satisfaction scores than those residing in traditional and less economically developed societies. This evidence highlights the relevance of societal development mediating the association between modern values and SWB.

Contrary to an increasing interest for evaluating the impact of societal aspects on individual SWB in international studies, this topic is still new in the Chilean research context. The most relevant study focused on that association is the UNDP report in 2012 which examines "social subjective well-being". Using indicators such as confidence in national institutions and evaluation of the opportunities given by Chile, a large gap between individual SWB and Chileans' view on their society was observed.

The UNDP report showed that Chileans have a negative perception of the opportunities given by Chile around 11 aspects scaling from a minimum of 1 to a maximum of 7 points. None of the opportunities were rated over 5 points, the worst evaluated being "feeling confidence confronting unemployment, delinquency and illnesses", "influencing and participating in

national decisions-making”, “satisfying your basic needs”, and “enjoying good health”. Conversely, the opportunities better evaluated were “building friendship and significant interactions”, “being in contact with nature”, “entertainment and leisure time”, and “personal growth and self-knowledge”.

Similarly, Chileans report lower confidence in institutions including governmental, religious, communication and social organisations. Using an index involving 10 institutions, Chile placed among the 13 countries with the greatest mistrust out of a total of 97 nations (UNDP, 2012). In particular, the worst evaluated institutions were political parties, Parliament and private companies, whereas social organisations and the press obtained better scores.

The report above also highlighted the gap between positive life satisfaction and greater malaise towards the opportunities given by Chile to achieve better well-being. A higher stable life satisfaction over the last decade has been accompanied by a drop in institutional trust and access to equality of opportunities in Chile. A similar trend is observed in western countries with lower trust in social institutions and social cohesion and greater discontent with the way societies are functioning (Lane, 2001; Putnam, 2000; Böhnke, 2008; Hooghe, 2012). Nevertheless, happiness has not shown downward trends, while life satisfaction has even risen in a couple of western countries in recent decades (Bjørnskov et al. 2008; Veenhoven 2007).

This dissertation explores that paradox, expecting to find that a greater confidence in political institutions and generalised trust in Chilean society show positive effects on Chileans’ SWB. Accounting for an analysis of SWB “in context” it is expected that people’s views on society show a significant association with SWB measured by life satisfaction, but also for hedonic and eudaimonic dimensions. It is expected to contribute to a wider SWB understanding, going beyond the classical psychological approach presents in the national research. Conversely, this dissertation supports that people’ SWB is influenced by their views on their social environment and the opportunities and constraints available in the Chilean society.

### 2.5.3 Predicting Well-being from the Capability approach

Beyond the notions of functionings and capabilities, two additional concepts emerge in the Capability Approach (CA) to explain how societal aspects influence people's well-being: "*individual endowments*" and "*conversion factors*". Both concepts are included in the CA in order to test the drivers of inequalities in opportunities. On one hand, individual endowments are focused on the impact of demographic characteristics and life transitions as sources of individual disparities in achieving functionings (Sauvain-Dugerdil and Hill, 2014; Sauvain-Dugerdil, 2014). On the other hand, conversion factors include physical and psychological aspects at the individual level, but also social and environmental factors promoting or restricting people in achieving human well-being (Nambiar, 2013).

Individual endowments are related to personal fixed characteristics such as age and sex which carry inequalities because of their specific social meaning, affecting individual agency. For example, being an older person or a woman is a negative condition to getting a better job. In other cases, individual endowments are acquired personal characteristics associated with life transitions such as marriage, parenthood or retirement. In this case, inequalities are the result of some changes in people's life-course, for example, less labour opportunities for younger mothers compared with similarly qualified women without children.

Going beyond demographic characteristics and life transitions as natural sources of inequalities in achieving functionings, the conversion factors involve other aspects that constrain or enhance the transformation of characteristics into functionings (Sen, 1999; Robeyns, 2006; Nambiar, 2013).

There are three conversion factors recognised in the CA (Nambiar, 2013). Firstly, "*personal factors*" include those characteristics related to physical and psychological operations such as intelligence, psycho-motor skills, metabolism, physical or mental illnesses and height. Thus, a person who is given a car cannot transform it into the functioning of mobility if he or she suffers a motor skills disability. Secondly, "*social factors*" include those

social norms, hierarchies and government policies inhibiting or promoting the conversion of commodities or goods into functionings. For example, in societies in which women are not allowed to travel along roads, an efficient transportation system cannot be converted into the functioning of travel. Thirdly, “*environmental factors*” involve those public goods, climate and infrastructural facilities limiting or expanding the acquisition of functionings. For instance, the absence of adequate street lightning can restrict the functioning of safe mobility at night.

Accounting for endowments and conversion factors, the CA provides a framework focused on people’s real freedom to achieve well-being. In this regard, this approach allows an examination of how people cope with constraining social norms or lack of institutional support, identifying people as active actors who are socially involved. The CA highlights that individuals make choices, converting goods into functionings and configuring their own valued set of capabilities within a social context with multiple constraints and freedoms.

According to Sen (1999) those constraints are mostly from the institutional framework inhibiting the freedom to achieve capabilities. Individual agency should be limited or promoted by social, political and economic opportunities available for individuals in a specific context and time. For example, democracy can be discursively presented in a nation, but if the existing institutions restrict its functioning, the real people’s political participation opportunities will be limited. This point is highly relevant for policy purposes because wisdom on how institutions constraint people’s achievements might guide more accurate governmental actions addressing well-being.

Through the inclusion of individual endowments, the CA suggests that some personal features are sources of well-being disparities in specific societies rather than only control variables affecting people’s subjective well-being as positive psychology empirically supports. Regarding the CA, characteristics such as sex, age and parenthood can restrict people’s opportunities to achieve well-being. Thus, being a woman is not a direct effect on people’s

life satisfaction or happiness, but it also might negatively influence individual agency because adverse social meanings are associated with being a woman. The CA gives an active role to individuals achieving their own valued well-being; nevertheless, the society in which they live can promote or constrain their achievements.

In Chilean social development reports, some individual endowments (such as gender, age, ethnicity, disability and territory) have been treated as drivers of inequalities in the Chilean society. In this regard, the CA could be a useful theoretical approach for understanding how some socio-demographic characteristics can be considered sources of inequalities and restricting capabilities.

Perhaps, one of the most common individual endowments analysed by the Chilean policy has been gender measured by sex. In similar conditions in terms of age and educational attainments, women report lower earnings than men (MIDEPLAN, 2017). Comparing Chilean people living in extreme poverty and individuals living in absolute poverty during the last decade, women always show a greater concentration than men in both cases (MIDEPLAN, 2012-2015).

Another significant difference by sex includes the occupational sector in which people work. Women are mainly concentrated in commerce, teaching activities, domestic services and social and healthcare services while men (except for commerce) mainly participate in construction, manufacture industry, transport and communications and agricultural and forestry activities. Analysis by occupational category indicates that both, women and men mostly work as employees in the private sector; nevertheless, other categories reveal, for example, that women have major labour participation in the public sector and men do not perform domestic services.

Otherwise, analyses by age groups reveal an increment of people over 65 years, representing around 15.6% of the overall population (CASEN, 2015). 11.8% of the oldest people live alone; therefore, a large number of lone-older householders (especially female) are predicted in the future. Income analyses controlling by age show lower profits to people over 65 years and a

higher participation in the labour market among older people, extending the legal period as workers (MIDEPLAN, 2017). Excluding those interventions oriented to protect and support children, younger people between 18 and 24 years old are another vulnerable group. For example, younger people have unemployment rates around 12.9% higher than the overall population and the lowest income reported by an economically active population in Chile in the last decade (MIDEPLAN, 2011).

Ethnicity has also been a variable used by Chilean policy makers to test difference within the population. According to CASEN survey in 2013, people with minority ethnic identities are disadvantaged compared to the rest of the Chilean population in several aspects. For example, minority ethnic householders have more dependents aged less than 17 years old in their charge; fewer years of schooling; inferior literacy rates in individuals under 15 years old and higher unemployment rates compared to the overall population (MIDEPLAN, 2013). Minority ethnic groups also have lower socioeconomic status, for example, around 23,4% are living in poverty conditions compared to 13,5% of the overall population (CASEN, 2013).

Additionally, earning distribution by quintiles indicates that people who belong to a minority ethnic group have lower incomes across all the socioeconomic groups and the differences are even higher in the extreme quintiles. That situation is mainly explained because agricultural work and farming are their main sources of income, which are lower paid than other economic sectors. Differences in labour conditions are also remarkable because minority ethnic groups have poorer job quality in terms of stability, contracts, pensions and access to social care services (MIDEPLAN, 2017).

Disability is also a common variable used to test potential disadvantages. Regarding the CASEN survey applied in 2013, around 6.3% of Chileans suffer a permanent disability; however, the most common are physical or mobility difficulties; following by blindness and deafness respectively. Disabled people show similar labour, educational and income disadvantages, to those from minority ethnic groups; however, there is interesting evidence that people's well-being might be highly affected when

disability is combined with other individual attributes. Being a woman, being an older person over 60 years old and living in poverty or an economically vulnerable situation are highly correlated (CASEN, 2013).

Finally, policy makers have included analyses by territorial differences. Material living conditions differentiated by rural versus urban areas or among the 15 Chilean regions have been widely covered; concluding that there are rural areas and specific regions living in lower socioeconomic conditions in contrast to the rest of the population (Mac-Clure and Calvó, 2013; MIDEPLAN, 2017).

Regarding the impact of life transitions on Chileans' well-being, only an analysis based on changes in family structure was found however, this kind of information has not been evaluated as a potential source of inequality.

Taking into consideration the relevance to understand potential drivers of unequal well-being, this dissertation proposes a first approach to measure both, individual endowments and conversion factors notions. The chapter 5 evaluates how multidimensional SWB is impacted by a set of individual endowments related to demographic aspects (age, sex, ethnicity, territory); socioeconomic (income level, educational attainment, occupational status) and life transitions (marital status, parenthood). The chapter 6 is mostly focused on the impact of conversion factors on SWB, using a set of indicators related to confidence in the national institutions and trust level in the Chilean society. Finally, chapter 7 assesses how several capabilities for achieving well-being are constrained or promoted by a set of socio-demographic and family life aspects. Through these three chapters, it is expected to make a greater contribution to Chilean policy design through the identification of those individual endowments and social factors which influence on Chileans' well-being opportunities.

## **2.6 Subjective Well-being in Chile: Current Knowledge and Gaps**

Although research focused on SWB has been widely developed in the international literature, there is only an emergent research field in Chile in the last decade. Farías et al (2015) reviewed SWB articles published by Chilean researchers in recognised databases between 2000 and 2013 and found a total of 48 articles related to SWB, life satisfaction or psychological well-being as the main subjects.

The aforementioned study reported that around 70% of the published articles belong to psychology as the main discipline, followed by 12% in the field of economic research. In terms of the predominant methodological approach, most are quantitative studies using correlational or causal models focused on the impact of socio-demographics, occupational and health variables on SWB at the individual level. All these studies are based on cross-sectional analysis, reporting a concerning lack of longitudinal SWB research. Through this dissertation is expected to create a greater contribution to processing the unique longitudinal database available for the Chilean population.

In conducting a similar review to Farías' work, five lines of research were found in Chilean SWB studies from the last decade. The first one includes basic empirical studies assessing the impact of demographic and socioeconomic variables on both life satisfaction and happiness. These studies usually apply simple correlation and regression models involving variables such as marital status, sex, age, income level and maximum educational attainments (Oyanedel et al. 2015; Vera-Villaroel et al. 2012; Moyano and Ramos, 2007).

A second group of studies have pointed out the impact of some individual characteristics as potential sources of SWB inequality. For example, Samman and Santos (2013) explored how Chilean's life satisfaction is affected by living in poverty, whereas others have been focused on the territory of residence as potential source of differentiated life satisfaction levels within the Chilean population (Vargas et al. 2016; UNDP, 2012).

A third line of research has been focused on examining the psychometric properties of some recognised SWB scales such as the Lyubomirsky and Lepper's happiness scale (Vera-Villaruel et al. 2011), the Satisfaction With Life Scale (SWLS) (Vera-Villaruel et al. 2012), the Life Satisfaction Index (LSI-A) (Zegers et al. 2009), the General Domain Satisfaction (Index-GDSI) (Oyarzún and Casas, 2016) and a set of Children's SWB scales (Casas et al. 2015).

A fourth set of studies have been concerned with the association between SWB and health involving the association between happiness, stress and health behaviours (Piqueras et al. 2011), the relationship between emotional control, vital satisfaction, happiness and coping/adaptation strategies of people diagnosed with advanced cancer (Hermosilla and Sanhueza, 2015), the effect of health and food-related variables on happiness in young and middle-aged adults (Lobos et al. 2015), the impact of specific eating habits and family support on life satisfaction Chilean higher education students (Schnettler et al. 2015, 2015b) and the effect of feeding patterns such as selection, purchase, preparation and consumption of food on adult's life satisfaction (Denegri et al. 2016).

Finally, a fifth group of studies has been concerned in the association between life satisfaction or happiness and education including the effect of happiness on higher education students' academic performance (Ramírez and Fuentes, 2013), the impact of teacher's emotional intelligence on life satisfaction, happiness and resilience (Velo-Besio et al. 2013), and the evaluation of positive predictors for life satisfaction in the old age (Ponce et al. 2011). Table 2.2 summaries aims, findings, methods and limitations for the recent empirical studies found in the SWB literature in Chile.

**Table 2.2** Emphasises and Findings in the national research

<b>Source</b>	<b>Aim</b>	<b>Main Findings</b>	<b>Methodology</b>	<b>Limitations</b>
Moyano and Ramos, (2007)	Measuring the impact of socio-demographic variables on life satisfaction, happiness and health of Chileans living in the Maule region.	Chileans are mostly satisfied with their lives, and even more satisfied if they are married, women and younger than 25 years old contrasting with single or divorced people, men and those aged over 60 years old.	Descriptive and inferential analysis	Basic quantitative analyses. Sample is not representative of the Chilean population.
Oyanedel et al. (2015)	Measuring the impact of socio-demographic variables on children aged from 8 to 12 years.	Higher satisfaction score on the domains of health, material status and social relations compared with Chileans' adult population. Moreover, no differences were found between gender, socioeconomic level and age.	Descriptive quantitative analyses	Basic quantitative analyses applied
Vera-Villaroel et al. (2012)	Association between happiness and a group of socio-demographic variables	High positive association between socioeconomic and educational levels, a higher association between income and happiness score, higher levels of happiness before the twenties and after the fifties (which is consistent with the U-shaped happiness theory presented in international studies) and no significant difference between men and women in regard to their happiness.	Structural equation model	
Samman and Santos (2013)	Impact of poverty status and transitions on life satisfaction	Poor people were more dissatisfied with life than the non-poor. Increases in income have no a significant impact on life satisfaction while people remain below the poverty line. Contrary to a natural adaptive human ability in confronting adverse circumstances, an extreme experience such as living in poverty has greater negative effects on people's life satisfaction.	Ordered probit model	Poverty is limited to income measurements
Vargas et al (2016)	Life satisfaction inequalities across the Chilean regions.	Higher life satisfaction in those Chileans living in Arica in the North and Magallanes in the South compared with the rest of the country, controlling for sex, age and income quintile the existence of a positive collective identity added to the better economic performance of these regions might explain their greater life satisfaction.	ANOVA test	The rest of the Chileans' regions are not equally evaluated
Vera-Villaroel et al. (2011)	Examining the psychometric properties of the subjective happiness scale based on the	Higher reliability (internal consistency and temporal stability) and construct validity of the scale, suggesting a good adequacy of the scale for use in the overall Chilean population.	Confirmatory Factorial Analysis	

	Lyubomirsky and Lepper's work in 1999.			
Vera-Villarroel et al. (2012)	Examining the psychometrics properties of the Satisfaction With Life Scale (SWLS) based on Diener's original work (1985).	Using a sample of adults from ages 18 to 65, they conclude that SWLS is a reliable and valid instrument for evaluating SWB in that segment of the population.	Correlations and Exploratory Factorial Analysis	Temporal stability was not tested.
Zegers et al. (2009)	Examining the psychometrics properties of the Life Satisfaction Index (LSI-A) based on Neugarten's scale.	Using a sample of 473 adults ageing from 30 to 75 years and living in the metropolitan area a good adequacy of the scale was found.	Confirmatory Factorial Analysis	Other related constructs such as health and biological indices were not included. Temporal validity was not tested.
Oyarzún and Casas (2016)	Examining the psychometrics properties of the general domain satisfaction (Index-GDSI)	Using a sample of 1,394 Chilean students aged from 10 to 13 years and living in Valparaiso, Bio-Bio and Santiago a good adequacy of the scale was found.	Confirmatory Factorial Analysis	Results are not representative at national level.
Casas et al. (2015)	Comparison of the psychometric properties of three scales focused on children's SWB (SLSS, BMSLSS, PWI-SC5, OLS)	Based on samples of children from high schools in Brazil, Chile, Spain and Romania, the authors found a good reliability of each scale by country; but a weaker cross-cultural comparability.	Confirmatory Factorial Analysis	No representative samples and unequal sizes among countries
Piqueras et al (2011)	Association of happiness with perceived stress and health behaviours in students aged between 17 and 24 years old.	Higher levels of happiness in people who had a daily lunch, physical activity and lower stress levels.	Logistic regression analyses	Basic quantitative analyses applied
Hermosilla and Sanhueza (2015)	Relationship between emotional control, vital satisfaction, happiness and coping/adaptation strategies of people diagnosed with advanced cancer.	Individuals are able to cope with feelings of sadness better than feelings of anger and worry. Moreover, higher levels of happiness were reported in those who to create their own strategies to respond to their condition.	Correlational	Lower size sample, no socio-demographic controls are applied.
Lobos et al (2015)	Impact of health and food-related variables on happiness in	A negative impact on happiness and life satisfaction on those who have unhealthy habits and a poorer perception of health were found.	Logistic regression models	Basic quantitative analyses applied

	young and middle-aged adults in Chile.			
Schnettler et al (2015)	impact of specific eating habits of Chilean higher education students on their life satisfaction	Using a confirmatory factor and cluster analyses, they found differences in the students' life satisfaction level according to their place of residence, socioeconomic level, the need to work while studying, lunchtime habits and body mass index.	Confirmatory Factorial Analysis Cluster Analysis	Specific samples based on higher education students only.
Schnettler et al (2015b)	Impact of family support on overall life satisfaction and life satisfaction with food.	They found higher scores on both SWB indicators for those students usually living with their parents, eating often at home, declaring fewer health problems, healthy eating habits and considered food to have an important role for their overall well-being.	Confirmatory Factorial Analysis	Specific samples based on higher education students only
Denegri et al (2016)	impact of feeding patterns such as selection, purchase, preparation and consumption of food on adult's life satisfaction;	They reported higher levels of satisfaction in people concerned about the quality of food consumed and sharing lunch time with others.	Qualitative focus groups and in-depth interviews.	No differences by gender, age or socioeconomic status were analysed.
Alfaro et al. (2016)	Relationship between various aspects of the school experience with school satisfaction and overall life satisfaction.	No significant differences in life satisfaction by gender, age (from 10 to 14 years old) and socioeconomic school level. Moreover, only three of 10 scholar predictors were significant in explaining life satisfaction, revealing that a greater variance of student's life satisfaction is not explained by scholar settings.	OLS regression	Samples are not representative of the educational system. Basic quantitative methods used.
Ramírez and Fuentes (2013)	Impact of happiness as mediator variable on the effect of university selection indicators on academic performance.	Happiness influences a stronger positive effect on the selection of mechanisms for a successful academic performance.	Structural equation model	No basic control variables such as gender, age, or socioeconomic status.
Veloso-Besio et al (2013)	Effect of emotional intelligence on life satisfaction, happiness and resilience of teachers in the special education level.	Emotional intelligence has a significant positive impact on all the dependent constructs.	Correlations and OLS regression model	Basic quantitative analyses applied
Ponce et al. (2011)	Predictive factors on life satisfaction in old people aged 60 and over.	Stronger predictors are self-efficacy (unequally distributed by educational groups), good quality of social relations and the performance of significant activities such as reading and going outside the home.	Logistic regression models	Causalities between predictors and life satisfaction are unclear.

Similarly to those findings reported by Farías and collaborators (2015), our review in the table above reports an emphasis by evaluating the impact of demographics and socioeconomic variables on Chileans' SWB. Some studies have clarified the association of SWB with other life domains prioritised by the Chilean social policy, such as health, education, income and territorial inequalities. Moreover, an important group of Chilean studies have been concerned with generating or validating SWB scales, contributing reliable methods for further research.

Methodologically, most of the studies found are based on a quantitative perspective, sharing some common limitations. For one hand, except for a few studies applying more sophisticated methods such as cluster analysis or the structural equation model, the majority of national research is based on descriptive or correlational analyses or multivariate regression models. For another hand, a significant number of studies are based on small samples based on specific segments of the population such as primary students, university students or older people; nevertheless, well-being analyses based on samples representative of the overall Chilean population are limited. Finally, no longitudinal SWB studies were found, indicating a future challenge in improving national data collection and undertaking longitudinal research.

Tackling with those methodological limitations, this dissertation proposes the use of advanced quantitative methods to understand SWB as a multidimensional concept and examining differences within the Chilean population. Although methods such as cluster analysis and confirmatory factor analysis have been carried out by some national studies, the use of these techniques has been reduced to generate or validating a set of international scales measuring SWB. Contrary to that common use, this dissertation takes advantage of the structural equation modeling approach to evaluate SWB as a conceptual construct, instead of the use of isolated indicators such as life satisfaction or happiness as synonymous of SWB. Moreover, SWB differences in the population according to specific individual attributes can be measured by the inclusion of a set of variables

such as age, sex, marital status, and socioeconomic and occupation status among others.

This dissertation also addresses with the problem of sample's representativeness. Conversely to several national studies which are focused on specific population groups, this dissertation uses two probabilistic datasets which allow getting reliable findings for all the population. Furthermore, we use the only longitudinal national database available for the overall Chilean population in order to examine SWB variations over time. In this regard, this is the first research attempt by understanding SWB as a phenomenon over people's life course instead of one period personal state.

Despite those methodological limitations, the most important weakness in the national studies is the lack of a more enriched theoretical perspective to understand SWB widely. SWB has been often understood as people's overall life satisfaction or happiness, associating SWB with pleasurable experiences and positive feelings exclusively. Only two exceptions were found in the national research, a study focused on psychological subjective in Chile by Ibañez (2011) and the most relevant SWB study carried out in Chile "*Subjective Well-being: The challenge for rethinking the Development*", led by the UNDP in 2012.

Ibañez (2011) analysed SWB in Chile accounting for the positive experiences and feelings as a relevant dimension, but also he involved other aspects such as being engagement, feeling accomplishment, having positive relationships and having a meaning of life. His findings shown that Chileans' well-being is highly explained by other aspects rather than positive emotions, such as having positive relationships and having a meaning or purpose of life, reinforcing the relevance for a wider theoretical SWB understanding. Although the theoretical approach of this study highlights over others, its methodology is quite basic, giving only descriptive results based on a non-nationally representative sample.

The second research is a complete report led by UNDP in 2012 aiming for a new development perspective for Chile, going beyond the pursuit of

economic growth as the predominant paradigm. This study is particularly interesting because it is the only explicitly underpinned by the Capability Approach. In the first instance, the most relevant capabilities for achieving individual subjective well-being were identified (in the Chilean case, having a good health, material needs covered, being socially respected and having a life purpose). Subsequently, this report accounts for the impact of societal factors on the individual SWB configuration, suggesting it as a matter of public policy.

Despite the straightness of the UNDP study, it has two main limitations. On one hand, it lacks a longitudinal analysis because the findings are based on one data collection period, therefore, variations on Chileans' capabilities over time or the impact of people's life transitions on SWB are not observed. On the other hand, Chilean SWB is understood as a construct affected by others' functionings, which is treated as a dependant variable; however, analysis accounting for SWB as part of a wider well-being analysis was not carried out. In this regard, SWB analysis is founded on the capability perspective, but it is empirically treated as an independent construct as it is in positive psychology.

Tackling with those limitations, this dissertation answers three related research questions, going from a basic to a more complex theoretical approach and taking advantage of the use of advanced multivariate methods of analysis to understand Chilean's SWB. Through the next section, those three research questions are presented, as well as their associated hypotheses and the expected contributions.

## **2.7 Aims of this Dissertation**

Accounting for the current evidence on SWB and the limitations found in the Chilean research, this dissertation contributes at a theoretical and methodological level examining the core components of Chileans' SWB, analysing Chilean well-being supported by both, positive psychology and the capability approach and assessing an unexplored association between individual SWB and people's views on Chilean society. The main research questions and their linked hypotheses are briefly described below.

### **2.7.1 RQ1: Are hedonic and eudaimonic distinctive components of Chileans' subjective well-being?**

Taking into consideration the contribution of positive psychology this research proposes an analysis of Chileans' well-being distinguished by hedonic and eudaimonic components. As concluded from the national research review (Section 2.6), most Chilean studies have been focused on life satisfaction and happiness, answering only the hedonic aspect.

Perhaps, the report developed by the UNDP (2012) is the only exception measuring Chilean subjective well-being widely; however, there are no findings based on the hedonic/eudaimonic distinction and even less examining variations over time. This dissertation contributes with a broader subjective well-being analysis incorporating both hedonic and eudaimonic well-being along an extensive period of time, using the World Values Survey (WVS) dataset from 1990 to 2014.

The first hypothesis suggests that hedonic and eudaimonic are two overlapping but differentiated SWB dimensions in Chile, being consistent with some evidence found at the international level (Section 2.4.1). A second hypothesis examines the effects of both hedonic and eudaimonic well-being on Chileans' SWB, expecting to find a greater impact on the latter, because it involves a wider range of functionings for achieving well-being beyond positive feelings and life evaluations (Section 2.4.1.2).

A third hypothesis takes into consideration that SWB might substantially differ according to some personal attributes such as age, sex, marital status, occupational status, education and income level. As previously mentioned, Chilean social development reports have shown relevant disparities in living conditions, health and income within the population (Section 2.5). Finally, and taking advantage of the broader period covered by the WVS, a fourth hypothesis investigates the impact of time on both, hedonic and eudaimonic dimensions expecting no significant effects on the latter because that is impacted by specific life events occurring over people's life-course rather than time itself (Section 2.4.3).

**H5.1:** Hedonic and eudaimonic dimensions are correlated, but also differentiated components of Chileans' subjective well-being.

**H5.2:** The eudaimonic dimension has a greater effect on Chileans' subjective well-being than the hedonic component.

**H5.3:** The hedonic dimension is positively predicted by being younger, educated, living in a partnership and having higher incomes and negatively by being older, retired, unemployed and lower incomes. The eudaimonic dimension is positively affected by being older, being educated, having a higher income and negatively by being unemployed, retired and lower incomes.

**H5.4:** The eudaimonic dimension is not significantly impacted by time controlling by other socio-demographic variables.

### **2.7.2 RQ2: Is Chileans' subjective well-being affected by their perceptions towards their society?**

Conversely to the previous research question examining SWB as an individual issue, this question explores the potential effects of people's views on Chilean society on their SWB. It is assumed that SWB is influenced by the particular perception that Chileans have of the quality of their social environment. Accounting for international empirical evidence (Section 2.5.2) and data availability for Chile in the WVS, people's societal perception is evaluated by two dimensions: level of confidence in national political institutions and generalised trust in society.

Using the capability approach as an umbrella, this question aims to explore the impact of views on society on Chileans' SWB. If society matters, then some positive contextual aspects should positively predict people's feelings and life evaluations because they act as well-being promoters or constraints.

There is a relative consensus on the positive effect of higher levels of institutional trust on both life satisfaction and happiness (Böhnke, 2008; Hooghe, 2012; Elchardus and De Keere, 2013; Ciziceno and Travaglino, 2018). Although a stronger predictor of SWB seems to be a positive

generalised trust in society measured by the existence of individual freedoms, equality and respect for human rights and opportunities to achieve a meaningful life (Böhnke, 2008; Hooghe, 2012; Aschauer, 2014).

Answering this question, confidence in political institutions is understood as a proxy of “social malaise”, predicting negative effects on Chileans’ SWB by lower levels of institutional trust. Trust in society examines the existence of opportunities to feel trusted in both the community and the government as well as respected as a human being.

As mentioned before (Section 2.5.3), most of the studies associating societal and individual SWB perception measure SWB by life satisfaction and, to a lesser extent, by happiness. Nonetheless, this dissertation uses the classical life satisfaction measurement as a single indicator, but also include hedonic and eudaimonic well-being. Using those three SWB indicators, it is expected to contribute with more precise information for future policy purposes. Particularly relevant is the inclusion of eudaimonic well-being, because whereas social malaise in Chile has increased over the last decade, life satisfaction remains higher and stable (UNDP, 2012). That paradox has also been reported at the international level (Putnam, 2000; Lane, 2001; Veenhoven, 2007; Bjørnskov et al. 2008); however, we do not know what happens if the eudaimonic dimension replaces the classical indicator, although similar effects are preliminarily expected.

Additionally, a set of demographic and socioeconomic individual attributes involve variables such as age, sex, marital status, parenthood, education, occupational status and income. Under the capability approach, those characteristics called “individual endowments” might be sources of individual disparities in achieving functionings in a specific society (Sen, 1999). Therefore, institutional trust, and feeling trusted should vary within the population according to any of these individual attributes.

Two hypotheses are examined, firstly expecting a positive effect on SWB through a greater confidence in political institutions and trust in society and a positive association between institutional trust and generalised trust in society.

**H6.1** Higher levels of confidence in national political institutions and trust in Chilean society have a positive effect on life satisfaction and hedonic and eudaimonic well-being.

**H6.2** A Higher level of confidence in national political institutions is positively and highly correlated with a greater trust in Chilean society.

### **2.7.3 RQ3: Do essential capabilities help to explain Chileans' well-being?**

Overcoming the limitations given for the use of only one theoretical approach, this research proposes an integration using both subjective indicators such as health status and socioeconomic perception, and objective well-being variables such as income and living conditions. The integration of both types of variables using principles underpinned by positive psychology and the capability approach known as the Subjective Well-being Capability approach (SWC).

Using a multilevel confirmatory equation model (MCFA) Chileans' well-being was analysed as a latent variable and achieving it depends on a set of capabilities. The capabilities and their respective functionings were selected considering the information available in the national household surveys used (CASEN PANEL), but also according to the importance of some life domains for Chilean social policy (Section 4.2 Chapter 4)

A review focused on the social development reports designed by the National Ministry of Social Development and Planning (MIDEPLAN) for policy purposes reveals some emphasis on specific domains: material living conditions, health, education, working conditions and incomes (MIDEPLAN, 2015).

In the first case, Chilean social policy establishes the direct effect of material living conditions on people's well-being. The last social development report explicitly declared "*...material living conditions directly impact on people's opportunities to achieve a healthy life and harmonious family relationships; therefore, improvements on the quality of*

*houses and supplies access are essential pursuing overall Chileans well-being*” (MIDEPLAN 2015, p:16). Particularly, the impact of living conditions on subjective well-being was evaluated through the capability set “*being adequately sheltered*”.

In addition to living conditions, income is one of the most important variables associated with people’s well-being in the Chilean case. Mostly earnings are the main source to satisfy basic needs and essential functionings for a better quality of life such as access to better schools, permanent access to healthcare services and living in safer places (MIDEPLAN, 2015).

Taking together income, education, and occupation, Chilean social policy determines the basic triad through which people can reach a better quality of life (Núñez and Miranda, 2011; Cartagena, 2014). In Amartya Sen’s words (1999) these might be the essential functionings to develop capabilities and personal potential and therefore, condition to achieve subjective well-being. These concerns were involved in the capability sets namely “*Having means to engage in productive and valued activities*”.

Nevertheless, there are other relevant means involved in the set mentioned. Going beyond the classical triad, this dissertation also includes as means, having savings, being employed, social networks and a positive socioeconomic status perception. The last one accounts as a subjective indicator, combining subjective and objective well-being indicators as the SWC perspective proposes (Section 2.4.6).

Other aspects broadly mentioned in national social policy are the relevance of access and quality of health to achieving a better life. Together with living conditions, education, employment and income, health appears to be an essential domain in understanding well-being in Chile. The last social development report (MIDEPLAN, 2017) suggests permanent increases in both public healthcare access and the number of medical appointments. Other indicators related to the period of time spent on waiting lists for a specialist appointment and complaints about the quality of healthcare have been added as qualitative measures. The relevance of the health dimension

was examined through a capability set called “*being healthy*”. Similar to the previous capability set defined above, being healthy also involved both objective and subjective health indicators.

Additionally, the impact of “individual endowments” affecting the three sets of capabilities described above is also examined. As was previously mentioned, achieving a better life is influenced by some personal attributes such as age, sex, ethnicity and marital status among others (Section 2.5.3). Under the SWC approach those individual characteristics become both, well-being promoters or constraints. That means that these endowments can become drivers of inequalities, restricting the opportunities for those who possess those attributes.

Using national evidence, the research examined the way in which some personal attributes identified as sources of well-being disparities in Chile impact on each set of capabilities. For example, there is evidence that Chileans living in rural areas have more limited access to supplies and unsatisfactory quality of housing compared with those living in urban centres (MIDEPLAN, 2014). Similarly, higher incomes have been declared by people living in the metropolitan area rather than the rest of regions (MIDEPLAN, 2017). Finally, higher life satisfaction and happiness have been reported by people living in the North of Chile compared to those located in the Centre or South of Chile (UNDP, 2012).

Sex and ethnic identity are usually individual endowments mentioned as sources of disparities within the Chilean population. National statistics show a higher concentration of woman in the extremely poor group than men (MIDEPLAN, 2012, 2015). Female householders with children also show the lowest housing income and the highest levels of debt in the population (MIDEPLAN, 2017). Moreover, women have lower earnings than men controlling by age and educational attainment, although the gap between them has decreased over the last decade (Arriagada 2010; Espinoza, 2012; Espinoza and Núñez, 2014). Likewise, being from a minority ethnic group has a negative impact on people’s inclusion in the labour market and

therefore, on their personal efforts to generate profits (Yopo, 2012; MIDEPLAN, 2017).

A well-being analysis by age group has frequently shown some socioeconomic differences between younger individuals and people in mid or later life. For example, people aged between 30 and 59 years declare greater savings and earnings compared with the youngest and oldest people (MIDEPLAN, 2015). Lower profits and a vulnerable socioeconomic situation in people over 65 years and the highest national unemployment rate in the youngest have been also reported (MIDEPLAN, 2017). On the other hand, better incomes are reported for those who have professional or higher studies as their maximum educational attainment. Accounting for the evidence presented, this dissertation evaluates the following hypotheses:

**H7.1:** Having means to engage in productive and valued activities, being healthy and being adequately sheltered have a positive impact on Chileans' well-being, controlling for individual endowments.

**H7.2:** Having the means to engage in productive and valued activities has a higher impact on Chileans' well-being than being healthy and adequately sheltered controlling for individual endowments.

**H7.3:** Having means to engage in productive and valued activities has a positive significant effect on being healthy and adequately sheltered, controlling for individual endowments.

**H7.4:** Having means to engage in productive and valued activities is negatively affected by being from a minority ethnic group, being older and being a parent, whereas being a man has a positive effect. Being adequately sheltered is negatively impacted by being older and being from a minority ethnic group. Being healthy is negatively affected by age and positively by being a man. Positive significant effects across all these capabilities are predicted by being in a partnership and living in urban or metropolitan areas and having a stable partner across all the sets of capabilities.

# Chapter 3: Methodology

## 3.1 Introduction

This chapter details the methodological decisions taken in order to answer the research questions proposed (Chapter 2, section 2.6). Firstly, the use of a quantitative approach for addressing the questions is defended. Secondly, a detailed description of the databases used is given, putting special attention on two secondary sources underpinning the main results. Thirdly, a more extended section describes the methods of analysis answering each research question. The models examined are specified in detail. Finally, some ethical issues related to the use of secondary databases are mentioned.

## 3.2 Methodological Approach

This work is based on a quantitative approach, taking advantage of secondary databases available to our case study. Even though quantitative methods are commonly applied in well-being studies, as was noted through the literature review (Chapter 2, section 2.3), several advantages supported their use here. First, the methods applied in this dissertation are advanced multivariate approaches which allow more complex and accurate measurements controlling for variations over time in some cases. Second, the results presented in the seventh chapter correspond to the unique longitudinal national database (CASEN PANEL) applied on a representative sample of the Chilean population and unused in national research.

Current studies focused on Chilean well-being only are based on descriptive and correlational analyses based on specific relevant aspects for social policy such as health, income, household and employment (MIDEPLAN, 2017). On the contrary, this dissertation proposes the use of multivariate techniques seeking a better understanding of Chileans' well-being and therefore, informing policy design in a more accurate way.

As we know, many issues of interest for social scientists are complex and multidimensional in nature, therefore advanced research methods are also required to capture that complexity. In this context, Structural Equation Modeling (SEM) emerges as a suitable method for answering such difficult questions. SEM is a statistical methodology that takes a confirmatory approach to the analysis of a specific phenomenon underpinned by a particular theoretical framework. The term structural equation modeling implies two procedures. Firstly, the causal processes under analysis are represented by a series of structural (regressions) equations and secondly, these structural equations relations can be modeled pictorially to offer a clearer conceptualisation of the theory studied. The hypothesised model can be examined statistically in a simultaneous analysis of the entire set of variables involved and then, some fit measures allow to researchers to determine if the model is adequate or not (Byrne, 2012).

SEM is considered a new-generation statistical modelling because integrates statistical methods such as factor analysis, path analysis and multiple regressions promoting their synergy and complementing each other (Kline, R, 2005; Weston and Gore, 2006; Bagozzi and Yi, 2012). Although SEM shares some similarities with those first-generational statistical, it has other recognised advantages.

SEM is similar than techniques such as correlations, multiple regression and analysis of variance (ANOVA) in several ways. First, all four statistical procedures are general linear models. Second, these procedures are valid only if specific assumptions are met. Third, none of these techniques assumes causality even though causal relationships might be hypothesised always theoretically underpinned. Despite those similarities, one difference between SEM and other methods is its capacity to estimate and test the relationships among constructs. Contrasting with other general linear models in which constructs are represented by only one measure and measurement error is not modeled, SEM is able to represent complex constructs (a set of observed variables explaining a concept) and estimates their measure-specific errors. A second difference is that the significance of

SEM models can be measured observing a wider range of fit measures. In SEM, researchers must evaluate several test statistics in order to find the most accurate model and accounting for a re-specification of the model when it does fit properly (Kline, 2005; Byrne, 2012).

Due to the improved methodological properties of SEM compared with other methods such as path analysis or factor analysis, it is not surprising that SEM has been widely used in the social sciences research during the last two decades (Weston and Gore, 2006). SEM's popularity has also grown as a result of an increase in the development of new software for conducting analyses such as Analysis of Moment Structures (AMOS), Equations (EQS), LISREL and MPLUS. As a consequence of SEM's popularity as an advanced quantitative research method, there are many journals reviewing recent advances in SEM or providing a guide to assist in SEM modeling (Hox and Bechger, 1998; Weston and Gore, 2006; Bagozzi and Yi, 2011).

According to Bagozzi and Yi (2012) SEM provides an integrative function of other traditional statistical techniques and helps researchers to be more precise in their specification of the model. SEM also takes into account reliability measures in tests of hypotheses in ways going beyond the preliminary ideas. Moreover, SEM guides exploratory and confirmatory research combining self-insights and modeling skills with theory. SEM might also suggest novel hypotheses originally not considered by the researchers. Finally, SEM is a useful tool in experimental or survey research, cross-sectional or longitudinal studies and testing hypotheses within or across groups. Through the next section a brief overview to understand how SEM works is given.

### **3.2.1 Basic Concepts and symbolic notation**

A relevant distinction using SEM is the difference between latent variables and observed variables. In social sciences researchers are often interested in studying theoretical constructs that cannot be explored directly. These abstract constructs are namely "*latent variables*". Examples of latent

variables in sociology are anomie, social stratification, social capital and well-being.

Because latent variables are not observed directly, researchers must operationally define the latent variable in study in terms of behaviour believed to represent it (usually scores derived from any measuring instrument). For example in the case of this dissertation subjective well-being as latent variable was measured by a set of observed variables collected as self-reported questions about people's life satisfaction, happiness and health status perception. Thus, direct observations collected for example, by self-report responses to an attitudinal scale or scores on an achievement test are termed "*observed variables*". In the context of SEM, these observed variables serve as indicators of the underlying construct that they are supposed to represent (Byrne, 2012).

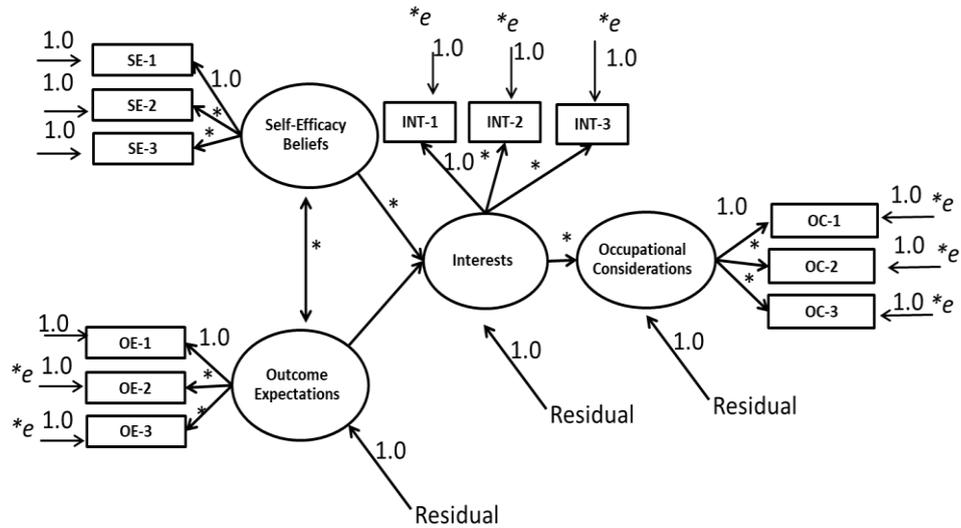
Another distinction to take into account working with SEM is the existence of exogenous and endogenous latent variables. "*Exogenous*" latent variables are synonymous with independent variables; they are causes explaining fluctuations in the values of other latent variables in the model. In contrast, "*endogenous*" latent variables are synonymous with dependent variable and therefore, they are influenced by the exogenous variables in the model, either directly or indirectly. Fluctuations in the values of endogenous variables are explained by the model because relationships between all latent variables are included in the model specification, whereas changes in the values of exogenous variables are not explained (Hox and Bechger, 1998; Weston and Gore, 2006; Bagozzi and Yi, 2011).

It is also necessary to distinguish between the measurement model and the structural model, two basic components in SEM. "*The measurement model*" describes the relationships between observed variables and the construct or latent variable those variables are hypothesised to measure. In contrast, "*the structural model*" indicates those interrelationships among latent variables. Due to both are part of an entire model, they are namely together as "*composite or full structural model*" (Kline, 2005; Weston and Gore, 2006).

*The measurement model* of SEM allows the researcher to examine how well observed variables are representing a hypothesised construct. Confirmatory Factor Analysis (CFA) is commonly used for this purpose, evaluating if observed variables are strongly related to one another. If one measure is only weakly correlated with two others measures in the same construct, then the construct is not well represented. Additional considerations specifying the measurement model are that constructs should be explained for three indicators at least and researchers should avoid including multiple measures (for example, composite indices) as observed variables (Weston and Gore, 2006).

*The structural model* specifies the hypothesised relationships among latent variables which can be covariances, direct effect or indirect (mediated) effects. Covariances are similar to correlations because non-directional relationships among independent latent variables are defined. In contrast, direct effects are relationships among variables, similar to those found in ANOVA and multiple regressions. In the context of SEM is recommended that causal relationships among latent variables are limited to longitudinal or experimental data only. Finally, indirect effects indicate the relationship between an independent latent variable mediated (full or partially) by one or more latent variables (Kline, 2005; Byrne, 2012).

Finally, before a review of the steps involved in model testing, a basic symbolic notation must be known. SEM can be expressed as a diagram, illustrating the hypothesised constructs and relationships. Latent variable are represented by ellipses, whereas observed variables are diagrammed by rectangles. Relationships are represented by arrows, thus, direct effects are represented by single-headed arrows, whereas double-headed arrows indicate covariances or correlations between pairs of variables. Moreover, specific error measured for each observed variable and modeled in a SEM is graphically specified as  $e$ , whereas error associated with dependent latent variables is represented with  $D$  or residual. As example, figure 3.1 illustrates a fully structural model representing four latent variables: self-efficacy beliefs; outcome expectations; interests and occupational considerations.



**Figure 3.1** Fully Structural Equation Model. Adapted from Weston and Gore (2006, p. 727)

Figure above shows that latent variables are all explained by three observed variables. For example, self-efficacy beliefs is a construct represented by SE-1, SE-2 and SE-3. Moreover, only self-efficacy beliefs is an exogenous latent variable, because all other constructs are dependent on another latent variable. A double-headed arrow between self-efficacy beliefs and outcome expectations indicate expected covariances, whereas a single-headed arrow indicates a direct effect, for example an impact of interests on occupational considerations. Indirect effects are also diagrammed, for example, self-efficacy beliefs on occupational considerations is indirectly and fully mediated by interests. Finally, each observed variable shows a measurement error represented as  $e$ , denoting the error in indicator that is not accounted for by latent variable. Similarly, error in dependent latent variable not accounted for by predictors is represented with  $D$ .

### 3.2.2 Steps in SEM

The first step called *model specification* refers when researchers determine which relationships are hypothesised to be or not among observed and latent variables. The model is based on researcher knowledge on a related theory, empirical research or a combination of both. Graphic representations of models are called “*path diagrams*” because they provide a clear visualisation of the relationships between variables (called parameters or

paths). Particularly, parameters between latent variables and observed variables are called “*factor loadings*”, whereas the relationship between latent variables and other latent variables are called “*path coefficients*”. Following the figure 3.1, paths between outcome expectations as latent variable and OE1, OE-2 and OE-3 are factor loadings, whereas a single-headed arrow on occupational considerations by interests represents a path coefficient.

In the model specification, researchers also must determine the type of parameters among both, observed and latent variables. Relationships among variables can be set to a nonzero value and being not estimated. Parameters might be also set to zero and not estimated or parameters might be left free to be estimated. The first case occurs when parameters are set to 1.0 to scale latent because these constructs have no inherent scale. Researchers can resolve this problem following two ways. Firstly, setting the variance of the latent variable to 1.0 or secondly, setting one factor loading (usually the observed variable from a latent variable) to 1.0. In contrast, parameters set to zero are not commonly included in the diagrammed models because they reflect the lack of relationship between two variables.

For example, figure 3.1 shows that the first factor loading for each latent variable has been set as 1.0 in contrast to other factors in which asterisk means that parameters are freely estimated. In other words, the model specified has a total of 12 directional effects, eight factor loadings between latent variables and observed variables and four path coefficients between latent variables.

A second step in SEM is known as *model identification* which implies to find the most parsimonious representation of the interrelationships among variables. A good fit model requires that researchers previously examine several issues related to data such as normality of the variables included in the model (each observed variable has a normal distribution), existence of multicollinearity (some variables are highly related, being essentially redundant) and the existence of missing data in any of the observed variables in study (Weston and Gore, 2006).

After, model specification and identification researchers are at the point of estimating the model. The third step, *estimation*, implies determining the value of unknown parameters and the error associated with the estimated value. In this stage, researchers use a SEM software programme to estimate parameters and standard fit measures to evaluate how well the phenomenon in study is represented by data.

Particularly in this dissertation, estimations were calculated using MPLUS version 8 developed by Muthén and Muthén. Following some methodological guidelines offering in the literature on SEM, models presented in this dissertation were built in blocks (Kline, 2005; Weston and Gore, 2006; Byrne, 2012). That means that using a CFA, the measurement model was firstly estimated examining how well each latent variable was represented by a set of observed variables. Then, the structural model followed a similar analysis, examining the paths coefficients among latent variables. Finally a full CFA model including all the interrelationships previously tested was evaluated according to a set of fit measures.

Literature suggests a set of common fit measures testing the accuracy of a specific model. The comparative fit index (CFI), The Tucker-Lewis Index (TLI) and the Root Mean Square Error of Approximation (RMSEA) are evaluated together in order to determine how well data fit (Weston et al. 2006; Kelloway, 2015). Values over 0.95 to CFI and TLI, and RMSEA smaller than 0.05 represent an overall good fit, supporting a reliable model (Kline, 2005; Geiser, 2013; Kelloway, 2015).

Finally, rarely is a proposed model the best-fitting model, therefore, researchers must modify and re-specify the model. This step in SEM is known as *the model modification*. On this point, researchers examine several ways to fit their proposed models better. Strategies usually involved adjustments of the parameters used (for example, left them free or setting scales). If model fit does not improve with those adjustments, researchers should test other alternative theoretically plausible models and then, choosing the best version accounting for both, statistical aspects and theoretical contribution.

### 3.3 Databases

This dissertation answers three research questions using two main data sources: The World Values Survey (WVS), accounting for data from Chile from 1990 to 2014 and The Panel Socioeconomic Characterisation Survey (CASEN PANEL), a longitudinal national database with representative information at the individual level from 2006 to 2009.

#### 3.3.1 The World Values Survey (WVS)

The World Values Survey (WVS) allowed the researcher to answer *Are hedonic and eudaimonic distinctive components of Chileans' subjective well-being?* (Chapter 2, section 5.2) and the second question, *Is Chileans' subjective well-being affected by their perceptions towards their society?* (Chapter 2, section 6.2).

The WVS is a nationally representative cross-sectional survey applied across the world, usually conducted by the local Gallup affiliate (for details: <http://www.worldvaluesurvey.org>). The survey started in 1981 and it is still collected in almost 90 percent of the World' population using a common questionnaire applies once every 4 or 5 years. WVS is fully applied in all countries, allowing cross-sectional analyses over the five waves conducted from 1981 to 2015.

Accounting for all the waves, the WVS questionnaire contains around 14 thematic sub-sections, including demographic indicators. Topics included are social values, attitudes and stereotypes; societal well-being; social capital, trust and organizational membership; economic values; corruption; migration; post-materialist index; science and technology; religious values; security; ethical values and norms; political interest and political participation and political culture and political regimes.

Currently, the WVS is the largest cross-national, time series survey focuses on human beliefs and values, including interviews with almost 400,000 respondents. The WVS seeks to support scientists and policy makers understand people's beliefs, values and motivations and how these change over time. WVS database covers a wider range of topics, allowing research

focused on economic development, democratisation, religion, gender equality and subjective well-being among others. These data have also been broadly used by government authorities and international institutions such as the World Bank and UNDP.

The main method of data collection in the WVS questionnaire is face-to-face interview at householder or individual living at home or phone interviews for remote areas. Respondent's answers could be recorded in a paper questionnaire (traditional way) or by CAPI (Computer Assisted Personal Interview).

Regarding to sampling issues, the minimum sample size completed in the most countries is 1000 cases. Samples must be representative of all people in the age 18 and older living within private households in each country and not only citizens. Sampling method is full probability and data can be used to reliable analyses at national level. Moreover and following strict field work rules, non-responses in the questionnaires are not allowed.

For the Chilean case, six waves have been collected from 1990 to 2014 for a total of 5,700 Chileans. Table 3.1 shows the number of cases by wave available for our case study.

**Table 3.1** Number of individuals, World Values Survey, Chile 1990-2014.

1990-1993	1994-1998	1999-2004	2005-2009	2010-2014	Total
1,500	1,000	1,200	1,000	1,000	5,700

Source: WVS, waves 2-6, 1990-2014. First wave 1981-1984 was omitted because does not contain information for Chile.

Using the WVS database, this dissertation answers the first question namely: *Are the hedonic and eudaimonic distinctive components of Chileans' subjective well-being?* Table 3.2 details both the four indicators used to examine Chilean SWB and those control variables evaluating SWB inequalities within the Chilean population (Chapter 2, Section 2.4.1). The original indicators' scale measures and their modifications are also shown in the table below.

**Table 3.2** List of variables selected for answering the first research question, WVS, 1990-2014\*

Name	Question	Original scale measure	New name	Modified scale measure**
<b>A170</b>	All things considered, how satisfied are you with your life as a whole these days?	1“Dissatisfied” to 10“Satisfied”	<b>SATISF</b>	Ordinal 1= dissatisfied 2=Not dissatisfied at all 3=satisfied
<b>A008</b>	Taking all things together, would you say you are:	1“Very happy” to 4 “Not at all happy”	<b>HAPPY</b>	Dummy
<b>A173</b>	How much freedom of choice and control you feel you have over the way your life turns out.	1“None at all” to 10“a great deal”	<b>FREEDOM</b>	Dummy
<b>F001</b>	How often, if at all, do you think about the meaning and purpose of life?	1“Often” to 4 “never”	<b>PURPOSE</b>	Dummy
<b>X003</b>	Age 18-29 years old	Continuous	<b>YOUNGER</b>	Dummy
<b>X003</b>	Age over 60 years old	Continuous	<b>OLDER</b>	Dummy
<b>X001</b>	Being a man	Dichotomous	<b>MAN</b>	Dummy
<b>X007</b>	Living in partnership	Categorical (1 to 8)	<b>PARTNER</b>	Dummy
<b>X025</b>	Higher education studies	Categorical (1 to 8)	<b>HEDUCATION</b>	Dummy
<b>X028</b>	Full time worker	Categorical (1 to 8)	<b>FTIME</b>	Dummy
<b>X028</b>	Part-time worker	Categorical (1 to 8)	<b>PTIME</b>	Dummy
<b>X028</b>	Self-employer	Categorical (1 to 8)	<b>SELF</b>	Dummy
<b>X028</b>	Being retired	Categorical (1 to 8)	<b>RETIRED</b>	Dummy
<b>X028</b>	Being unemployed	Categorical (1 to 8)	<b>UNEMPL</b>	Dummy
<b>X011</b>	Having Children	Categorical (1 to 8)	<b>CHILDREN</b>	Dummy
<b>X047</b>	Self-reported in the first income quintile	Categorical (1 to 10)	<b>QUINTIL1</b>	Dummy
<b>X047</b>	Self-reported in the second income quintile	Categorical (1 to 11)	<b>QUINTIL2</b>	Dummy
<b>X047</b>	Self-reported in the fourth income quintile	Categorical (1 to 11)	<b>QUINTIL4</b>	Dummy
<b>X047</b>	Self-reported in the fifth income quintile	Categorical (1 to 11)	<b>QUINTIL5</b>	Dummy
<b>S003</b>	Period from 1999 to 2004	Categorical (1 to 6)	<b>YEAR4</b>	Dummy
<b>S003</b>	Period from 2005 to 2009	Categorical (1 to 6)	<b>YEAR5</b>	Dummy
<b>S003</b>	Period from 2010 to 2014	Categorical (1 to 6)	<b>YEAR6</b>	Dummy

Source: The World Values Survey, 1990-2014. Data includes all the waves except for the first one (1984-1989) with no information for Chile N= 5,700. \*All variables selected are available for Chile over the four waves. \*\*Recoding procedures are explained in detail in APPENDIX 3.1

At the top of table above, there are four indicators measuring SWB in Chile: Life satisfaction (A170), happiness (A008), freedom of choice and control (A173) and thinking about meaning and purpose of life (F001). According to the literature review, most of SWB studies are based on overall life satisfaction and happiness as the main indicators (Chapter 2, Section 2.3). Indeed, life satisfaction and happiness have shown to be reliable questions compared with biological and health outcomes. For example, experimental studies have found a correlation between self-reports with changes in blood flow to brain regions related to pain (Coghill et al. 2003). Cohen and

Hamrick (2003) also reported a higher correspondence between life satisfaction and happiness with immunological and hormonal measures. Moreover, a higher mortality has been also examined in nations and individuals declaring lower SWB (Steptoe et al. 2013).

Regarding to others two indicators, freedom of choice and control as well as meaning and purpose of life have been used to examine psychological well-being in many studies based on the positive psychological perspective (Chapter 2, Section 2.3.1). These have usually been included in well-being studies underpinned by the capability approach (Chapter 2, Section 2.3.4). Even though a large number of indicators are needed for both a psychological well-being analysis and an empirical practice of the capability perspective, this dissertation contributes to exploring SWB in Chile beyond the most classical hedonic approaches.

It should be noted that other indicators as SWB proxies are available in the WVS; nevertheless, this dissertation selected only those indicators collected for Chile over the five waves. A similar criterion was applied to choose a set of covariates due to their empirical association with SWB (Chapter 2, Section 2.4.1) and their political importance for the Chilean policy as priority groups (Chapter 4, Section 4.2).

The second question of this dissertation: *Is Chileans' subjective well-being affected by their perceptions towards their society?* is answered using the indicators mentioned in Table 3.2, but also a group of indicators examining people's perception towards Chilean society. Data are associated with the level of confidence that Chileans have in their national political institutions and in their generalised trust in Chilean society. Table 3.3 gives more details below.

**Table 3.3** List of variables selected for answering the second research question, WVS, 1990-2014\*

Name	Question	Original scale measure	New name	Modified scale measure**
E069_02	How much confidence do you have in the Armed Forces?	Ordinal (From 1= great deal to 4= None at all)	<b>ARMY</b>	Dummy
E069_06	How much confidence do you have in the National Police?	Ordinal (From 1= great deal to 4= None at all)	<b>POLICE</b>	Dummy
E069_07	How much confidence do you have in Parliament?	Ordinal (From 1= great deal to 4= None at all)	<b>PARLIAM</b>	Dummy
E069_08	How much confidence do you have in the Civil Services?	Ordinal (From 1= great deal to 4= None at all)	<b>CIVIL</b>	Dummy
E069_11	How much confidence do you have in the government?	Ordinal (From 1= great deal to 4= None at all)	<b>GOVERN</b>	Dummy
E069_12	How much confidence do you have in the Political Parties?	Ordinal (From 1= great deal to 4= None at all)	<b>PPARTIES</b>	Dummy
A165	Most people can be trusted	Categorical (From 1= most people can be trusted to 2=Can't be too careful)	<b>TRUSTED</b>	Dummy
E124	Respect for individual human rights nowadays	Ordinal (From 1= there is a lot of respect for the individual to 4= there is not respect at all)	<b>RIGHTS</b>	Dummy
E037	A deregulated society where people are responsible for their own actions	Ordinal (From 1= People should take more responsibility to 10= The government should take more responsibility)	<b>EQGOV</b>	Dummy
E128	The government runs for all people interests instead of big interests.	Ordinal (From 1= the government runs for all people interests to 10= the government runs for big interests)	<b>EQUALS</b>	Dummy

Source: The World Values Survey, 1990-2014. Data includes all the waves except for the first one (1984-1989) with no information for Chile N= 5,700. \*All variables selected are available for Chile over the four waves. \*\*Recoding procedures are explained in detail in APPENDIX 3.2.

### 3.3.2 Panel Socioeconomic Characterisation Survey (CASEN PANEL)

Panel Socioeconomic Characterisation Survey (CASEN PANEL) is the main source answering *Do essential capabilities help to explain Chileans' well-being?* (Chapter 2, section 2.6). The CASEN PANEL was the first longitudinal survey applied to the Chilean population evaluating changes over people life-course, although its collection stopped in 2010 with only four waves.

The CASEN PANEL questionnaire is a face-to-face interview aims to understand the changes of the socioeconomic conditions within the Chilean population over time and their impact on Chileans' well-being. The survey

includes both, information about the household and any member residing there. In the first case, a householder, partner or any person over 18 years old can answer questions about material living conditions and housing structure. Nevertheless, individual questions related to labour history, education, incomes or health aspects must be individually answered by each family member in the age of 15 years old or over. Moreover, PANEL CASEN also considers a set of questions regarding to people fewer than 15 years old however, topics about labour history and personal perceptions are excluded due to there are other significant (such as father or mother) responding by the children. Table 3.4 details the main dimensions covered by the PANEL CASEN survey and their respective indicators.

**Table 3.4** Dimension and Indicators included in the PANEL CASEN

<b>Dimensions</b>	<b>Data available 2006-2009</b>
Territorial	Region Urban/rural area County
Household characterization	Household type Household size Household's member characterisation Occupancy Household status Goods and appliances in the household
Residents	Age Sex Marital status Ethnicity Family kinship
Labour History	Occupation status Economical sector Labour experience Workdays Type of contract Size of the company or workplace Labour Training Saving and funds Earnings periods of unemployment Pension system
Incomes	Other incomes by properties, shares, bonds, insurances, pensions, subsidies, savings etc.
Education	Years of schooling Educational attainments
Health	Health care access Heath care services required Presence of illness/Disabilities
Subjective well-being	Health status perception Socioeconomic Status perception

Prepared by the author based on the PANEL CASEN questionnaires for 2006, 2007, 2008 and 2009 data collection periods.

Regarding sampling issues, the CASEN PANEL survey was initially calculated using the National Socioeconomic Characterisation Survey (CASEN) applied in 2006 as sampling frame. CASEN database applied in 2006 for a total of 8,079 households and 30,104 individuals allowed defining a sample of individuals clustered in households, for subsequent data collections in 2007, 2008 and 2009 using a new format called PANEL CASEN survey.

Samples calculated for the PANEL CASEN collection in 2007 and onwards are all probabilistic and representative at national level, but also for specific analyses based on regional territories or rural versus urban areas. Table 3.5 shows both samples sizes for each period and the attrition or percentage of losing information among years.

**Table 3.5** Original Sample CASEN PANEL survey

Wave	Year	Individuals	% previous wave
1	2006	30,104	-
2	2007	25,051	83.2%
3	2008	22,983	91.7%
4	2009	21,688	94.3%

Source: Prepared by the author based on CASEN PANEL 2006-2009, n=99,826 observations.

Taking into consideration the four waves covered by the CASEN PANEL, a total of 99,826 observations were collected; however, some essential sets of capabilities explaining Chileans' well-being are analysed on a total of 69,561 observations (omitting people under 18 years old) and accounting for 29,497 individuals from 2006 to 2009. Table 3.6 illustrates the final sample processed and the number of individuals by wave and year.

**Table 3.6** Selected Sample, CASEN PANEL, 2006-2009

Wave	Year	Individuals	% previous wave
1	<b>2006</b>	21,303	
2	2007	16,888	79.2%
3	2008	15,992	94.6%
4	2009	15,378	96.1%

Source: Prepared by the author, The CASEN PANEL 2006-2009, N=69,561 observations. 2006 is the frame sample.

A second stage involved recoding data and creating other new variables. Table 3.7 offers a list of those variables selected from the CASEN PANEL database, showing both their original and modified scale measure.

**Table 3.7** Selected and recoded variables, CASEN PANEL, 2006-2009

Original variable	Current label	Original scale measure	New variable name	Modified scale measure*
<b>Health</b>				
S7	Health status perception	Ordinal (1=very good to 5= very poor)	HEALTH	Ordinal (1=very good to 5= very poor)
S15.a	Free of suffering a chronic illness	Categorical (1 to 6)	ILLNESS	Dummy
<b>Shelter</b>				
V5	Access to water services	Categorical (1 to 3)	SUPPLY	Dummy
V6	Access to sewage services	Categorical (1 to 7)		
V8.b	Material walls' quality	Categorical (1 to 3)	MATERIAL	Dummy
V10.b	Material roof's quality	Categorical (1 to 3)		
V9.b	Material floors' quality	Categorical (1 to 3)		
V11	Type of house (separated, detached or semi-detached, flat)	Categorical (1 to 9)	HOUSE	Dummy
<b>Means</b>				
E8	Having professional or higher studies	Categorical (1 to 16)	HEDUCATION	Dummy
O16	Full-time worker	Categorical (1 to 5)	FTIME	Dummy
YOPR	Logarithm individual incomes	Continuous	INCOME	Logarithm
Y21.1	Having savings	Categorical (1 to 10)	SAVING	Dummy
O18	Family networks to find a job or undertaking a business	Categorical (1 to 12)	NFAMILY	Dummy
O18	Other networks to find a job or undertaking a business	Categorical (1 to 12)	NOTHERS	Dummy
I18	Socioeconomic status perception	Ordinal (1=more than enough to 4= less than enough)	ISOCIO	Ordinal (1=more than enough to 4= less than enough)
<b>Covariates</b>				
R2	Being a man	Dichotomous	MAN	Dummy
R3	Age in years	Numerical	AGE	Continuous
R3	Age between 18-35 years old	Numerical	YOUNGER	Dummy
R3	Age over 60 years old	Numerical	OLDER	Dummy
R6	Living with a stable partner	Categorical (1 to 7)	PARTNER	Dummy
R5	Being a parent	Categorical (1 to 5)	PARENT	Dummy
T4	Having an ethnic affiliation	Categorical (1 to 9)	ETHNICITY	Dummy
Z	Living in urban area**	Dichotomous	URBAN	Dummy
REGION	Living in the Capital of Chile	Categorical (1 to 15)	CAPITAL	Dummy

Source: The CASEN PANEL, 2006-2009.\*Recoding procedures are explained in detail in APPENDIX 3.3 \*\*Urban area considers more than 5.000 habitants and tertiary sector as main economy.

The CASEN PANEL offers some advantages for our own research interest. Firstly, a set of socioeconomic indicators are evaluated from 2006 to 2009 on the same individuals, with less missing values over time. Moreover, an important group of relevant indicators for answering the third research

question remain along the waves. Secondly, The CASEN PANEL includes individual information which can be linked with a set of household indicators, allowing more enriched analysis from the contextual information available. Finally, although the period covered is short, the longitudinal attribute of this database allows for controlling for individuals' differences over time, offering a more reliable results.

### **3.3.3 Limitations of WVS and PANEL CASEN databases**

Regarding to sample issues, the WVS calculates representative samples at national level only. That means that analyses based on specific territorial areas within the same country are not reliable. This is a relevant limitation for our analyses because territorial differences cannot be examined as potential sources of unequal SWB in Chile. By contrast, the PANEL CASEN allows confronting that restriction, because samples are representative at national, but also at regional level. Well-being differences within the Chilean population accounting for living in rural versus urban areas or living in the Capital compared with the rest of Chile were included in the models based on the PANEL CASEN database.

Another limitation of the WVS is the use of all its waves in order to test variations over time. Although WVS provides systematic information for many countries from 1990 to 2014, including Chile, each wave contains 4 years, therefore specific analyses controlling for time effects might be unclear. By contrast, the PANEL CASEN was annually collected from 2006 although interrupted in the fourth wave in 2009. That is the main reason explaining why this survey has not been considered for policy purposes. Despite that, we support its usefulness as the unique longitudinal national database applied on the overall population.

Additionally, other limitations are related to the quantity and quality of information collected by both databases. The WVS provides information for monitoring progress on SWB based on overall life satisfaction and happiness; nevertheless other specific life domains are not collected. There are only two references to specific evaluative indicators, health status

perception and satisfaction with financial household status. Similarly, there are not questions measuring a wider range of affections, involving positive and negative feelings. Finally, eudaimonic indicators are even less covered by the WVS, restricting our analysis to only two aspects, having freedom of choice and control and having meaning and purpose of life.

Evaluating the impact of societal aspects on SWB is also limited by the quantity of data available. A wider range of other societal aspects related to SWB are not collected for Chile in the WVS. For example, there are not references about social participation and social inclusion opportunities, freedoms to get involve in political actions, being part of minorities and respected, gender equality perception and freedoms to follow emancipative values among others.

In the same way, the PANEL CASEN only contains information about two SWB indicators, health and socioeconomic satisfaction. About the classical quality of life measurements, the PANEL CASEN offers a decent range of indicators for observing basic functionings for achieving well-being; however other aspects such as being free of financial strain, feeling safe in the neighborhood and getting active and socially involved cannot be measured. Otherwise, the PANEL CASEN does not provide enough information for examining the impact of social and environmental factors on Chileans' well-being.

### **3.3.4 Complementary Databases**

Additionally to the PANEL CASEN survey and the WVS survey, a set of complementary databases were processed in order to take a more precise picture of Chileans' well-being. An International source used was the Latin Barometer survey (1997-2015), whereas some Chilean complementary databases included the National Socioeconomic Characterisation Survey (CASEN) and The Bicentennial National Survey (ADIMARK-PUC) Additionally, some statistics used as references across this dissertation were extracted from the Public Finances Statistics (DIPRES), the World Happiness Report (2006) and other national official reports.

### **3.3.4.1 Latin Barometer Survey**

Latin Barometer (LB) is a survey annually applied in 18 Latin American countries and conducted by the Latin Barometer Corporation, a non-profit ONG. Data from this survey are published through the official Corporation website from its first collection in 1995 to the last one in 2017 ([www.latinobarometro.org](http://www.latinobarometro.org)).

The main goal of the LB survey is to collect information about relevant socio-politic topics for the Latin American region such as attitudes towards democracy, the role of the government, human rights, civil culture and politics, citizenship, political participation, social inclusion, national identity, social values and trust in national institutions among others. Because LB survey collects information on contingent socio-politic national topics, its questions are not the same over time; therefore comparative analyses are difficult to carry out using this data.

The LB questionnaire is a face-to face interview applied on around 83% of the population living in urban areas and 17% residing in rural areas, accounting for a sample error +/- 2.8% for an interval confidence at 95%. Samples collected in Chile from 2003 are all probabilistic and representative for all the population in the age of 18 and over, including a sample of 1,200 individuals by year.

Accounting for this database, overall life satisfaction with life was used as indicator to contextualise Chileans' SWB in the Chapter 4 due to that is a common informative indicator suggested in international SWB studies and also available for Chile from 1997 to 2015<sup>14</sup>.

### **3.3.4.2 National Socioeconomic Characterisation Survey (CASEN)**

The most relevant national data source on which social policies design is based is the National Socioeconomic Characterisation Survey (CASEN) applied from 1990 until 2015 every two or three years ([http://observatorio.ministeriodesarrollosocial.gob.cl/casen/casen\\_obj.php](http://observatorio.ministeriodesarrollosocial.gob.cl/casen/casen_obj.php))

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<sup>14</sup> Later Latino barometer versions in 2016 and 2017 also include overall life satisfaction with life as question however, the response's codification changes from 5 to 4 categories.

CASEN survey is a face-to-face interview aims to provide key information about Chileans' well-being in terms of four core dimensions in which national social policy is underpinned: Education and culture; work and social protection; health and housing and neighbourhood (IPOS, 2011-2016)

Information related to living conditions, housing equipment and demographic, health, educational, income and occupational indicators have been collected from the beginning to the application survey at the present. Instead, some issues seem to be important to the Chilean policy after 2000 such as ethnicity (excepting for 1996), disability, social protection and social participation evaluation. Information about place of residence to analyse territorial mobility and the impact of occupation and educational parent's background on their children future have been incorporated from 2006 at the present. By contrast, contamination, citizen political knowledge and cultural capital were collected in one period only.

Moreover, some emergent topics collected systematically over the last periods are energy use and well-being perception, while in the last year gender, discrimination and social support evaluations have been introduced as relevant improvement to the social indicators collection in Chile.

Data provide by the CASEN survey are based on a probabilistic sample stratified by territorial area and answered by the main householder or people in the age of 18 and over. Some sections including subjective questions and labour history are exclusively focused on the interviewer, nevertheless other sections related to material living conditions and demographic aspects are answered by the main respondent for each housing family member.

CASEN Databases are also representative at national level, but also analyses by region, county and rural versus urban territories can be carried out. Sample sizes vary by period nevertheless, from 2006 at the present around 1,100,000 individuals which belong to 70,000 households are involved.

Particularly some well-being indicators have been introduced as two questions into the "health section". Health status perception is analysed from the question: *How do you feel about your current health status?*

Answers were classified using the scale 1.Very good; 2. Good; 3.Fair; 4.Poor and 5.Very poor. The second well-being indicator introduced later is addressing through the question: *taking into account all the aspects in your life, how satisfied do you feel now?* Answers were collected using an ordinal scale in which 1 means “completely unsatisfied” and 10 “Completely satisfied”. Chapter 4 analyses some trends observed from the indicators available.

#### **3.3.4.3 Bicentennial National Survey (ADIMARK-PUC)**

The Bicentennial survey is annually applied for the Chilean Catholic University (PUC) and ADIMARK-GFK, a marketing and research international company, from 2006 onwards (<http://encuestabicentenario.uc.cl>).

ADIMARK-PUC survey aims to analyse the Chilean society perceptions on relevant topics, covering contingent issues and reporting relevant conclusions to policy making decisions. Topics include in several ADIMARK-PUC collections are related to Chileans’ opinions about national institutions performance; government main development goals; poverty, political knowledge; social inequality; abortion; homosexuality; divorce and national identity among others.

The ADIMARK-PUC is a face-to-face survey involving a sample of Chileans in the age of 18 and over, living across the national territory. Samples are probabilistic and stratified by age, socioeconomic status and place of residence, reaching annually around 2,000 respondents using around 2% of sample error.

This survey also provides information about subjective well-being aspects through a section called “Quality of life” collected in 2006, 2010 and 2012 respectively. People answer how satisfied they feel about their economic status; health status; leisure time; friendships and physical appearance (Using an ordinal scale from 1.very dissatisfied to 7.very satisfied). Another indicator used was health status perception asking for people’s feeling depressed, stressed, isolated, illness and having a disorder to sleep (Using an

ordinal scale in which 1.neve, 2.rarely, 3. not very often, 4. very often and 5. almost always) (See Chapter 4).

#### **3.3.4.4 Official Statistics and Reports**

Additionally, some official data reports have been processed here to contextualise subjective well-being in Chile. At national level, The Public Finances Statistics (DIPRES) was used to examine social expenditure in social programmes in Chile (<http://www.dipres.gob.cl/598/w3-propertyvalue-15407.html>). Social development reports annually published by the Chilean Social Development Department were also consulted (MIDEPLAN 1996; 2014-2017; IPOS, 2011-2016). Finally, at international level, the World Happiness Report (2016) was explored to examine Chileans' happiness from 2006 to 2016 and other sources such as The World Bank (2010) and the OECD (2013) allowed comparing our results with a wider context.

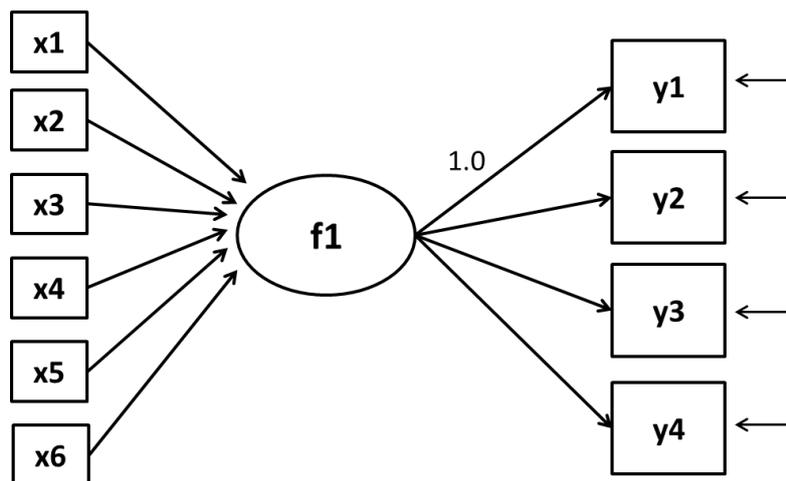
### **3.4 Methods**

The three empirical chapters in this dissertation are focused on CFA models underpinned by a wider methodological approach known as structural equation modelling (SEM). The literature review refers to confirmatory factor analysis (CFA) as a method commonly used to test a measurement model previously designed according to empirical evidence and related theories. The main contribution from CFA is that researchers can test a set of hypotheses involving observed variables, but also measuring abstract constructs called latent variables (Bagozzi and Yi, 2012; Weston and Gore, 2006; Kline, 2005). One of the most powerful advantages of CFA under the SEM umbrella is the fact that specific and complex relationships between constructs theoretically underpinned can be tested. Moreover, compared to other general linear models, CFA measures those constructs by multiple observed variables, considering their specific error measurements and improving the accuracy and reliability of the hypothesised model (Weston and Gore, 2006; Kline, 2005).

Through this dissertation, there are three types of methods developed under the umbrella of structural equation modeling analyses: MIMIC confirmatory factor analysis; second-order confirmatory factor analysis, and a multilevel confirmatory factor analysis. These procedures are briefly discussed below, providing to the reader a better future understanding of our empirical chapters.

### 3.4.1 MIMIC CFA model with Covariates

A CFA MIMIC (Multiple-indicators multiple-causes) is a particular confirmatory analysis through which one or more latent variables are predicted by a set of covariates. Figure 3.2 illustrates a basic MIMIC model evaluating a latent variable (f1) by four observed variables (y1-y4) and controlling for six covariates (x1-x6).



**Figure 3.2** CFA model with covariates (MIMIC). Prepared by the author.

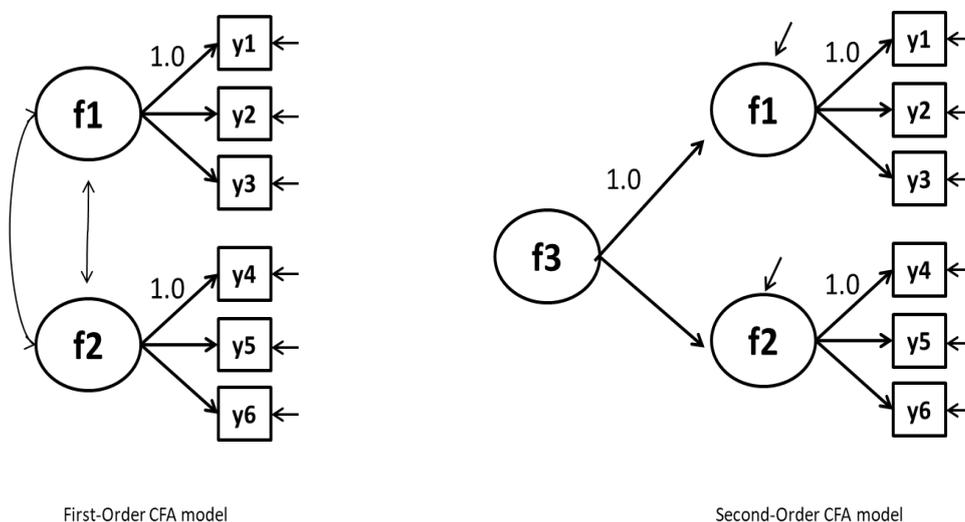
A similar structure than the example above was carried out in the Chapter 5, examining the existence of hedonic and eudaimonic well-being as distinctive SWB dimensions. MIMIC model firstly allowed examining SWB as a latent construct (f1) explained by a set of four observed variables: overall life satisfaction (y1), overall happiness (y2), freedom of choice and control on their own life (y3), and having meaning and purpose of life (y4).

Moreover, using a set of covariates such as age (x1), sex (x2), marital status (x3), educational attainment (x4), parenthood (x5) and occupational status

(x6) among others, MIMIC model allowed exploring in SWB inequalities within the Chilean population, contributing with future guidelines for Chilean social policies.

### 3.4.2 Second-Order Confirmatory Factorial Analysis

Confirmatory factor analyses usually start examining first-order models in which researchers examine how well observed variables and their related underlying factors are specified. Subsequently, researchers might be interested in studying if a higher order global construct is well represented by such set of observed variables. The last case is known as second-order CFA models. Figure 3.3 illustrates the differences between both.



**Figure 3.3** Visualisation of a first and second-order CFA model. Prepared by the author.

Figure above shows that a first-order CFA model involves one or more latent variables (f1-f2) explained each one for a set observed variables (for example, f1 by y1-y3) and interrelationships among latent variables. In contrast, a second-order model includes a higher order latent variable (f3) which is explained by others (f1-f2).

Through this dissertation, three second-order models were built. A first model examined the existence of two correlated, but differentiated dimensions explaining Chileans' SWB: Hedonic and Eudaimonic (Chapter 2, section 2.6). Following the example above in figure 3.3, SWB is f3, the

higher order construct, whereas hedonic is f1 (measured by life satisfaction and happiness as observed variables) and eudaimonic is f2 (measured by freedom of choice and control of own life and having meaning and purpose of life as indicators). A non-directional relationship between hedonic and eudaimonic well-being dimensions was allowed examining the hypothesis 5.1, expecting a greater correlation between both constructs. In contrast, directional impacts of hedonic and eudaimonic well-being on SWB were proposed to examine the hypothesis 5.2, expecting a greater effect of eudaimonic, rather than hedonic well-being on SWB.

The second model explored the second research question proposed in this dissertation, examining the effect of confidence in national political institutions (f1) and trust in society (f2) on life satisfaction (f3). Confidence in national institutions was measured by six observed variables (y1, trust in the Armed Forces; y2 in the National Police; y3 in the Parliament; y4 in the Civil Service; y5 in the government; and y6 in the Political Parties). The second latent variable, trust in society was evaluated using four observed variables (y7 perception that most people in Chilean society can be trusted; y8 the existence of respect for individual human rights nowadays; y9 the level of agreement about a deregulated society where people are responsible for their own actions and; y10 the perception of government runs for all people's interests instead of big interests). Positive effects on life satisfaction by a higher confidence in national institutions and trust in society were examined by the hypothesis 6.1.

Finally a third model also examined the effect of confidence in national institutions and trust in society on Chileans' SWB, but life satisfaction was replaced for two higher-order constructs, hedonic well-being (f3) and eudaimonic well-being (f4). Similar observed variables than those used in the MIMIC model were examined. Hedonic latent variables was measured by two observed variables (y1 life satisfaction and y2 happiness) and eudaimonic well-being by others two (y3 freedom of choice and control on own life and y4 having meaning and purpose of life). Direct effects of institutional confidence and trust in society on both, hedonic and

eudaimonic constructs supported the hypothesis 6.1, whereas a non-directional relationship between institutional trust and trust in society examined the hypothesis 6.2.

It is relevant to mention that all second-order CFA models developed through this dissertation also involved a set of covariates in order to explore SWB inequalities within the Chilean population. Covariates, also known as control variables were demographic and socioeconomic indicators often used by Chilean policy makers to identify the most vulnerable groups in the population. Particularly, these covariates were age (being younger or older), sex (being a man), marital status (living in a partnership), education (having higher studies), parenthood (being a parent), occupational status (unemployed and retired) and income quintile self-report perception.

Additionally, because models were calculated using the WVS database, a cross-national survey with measurements over time, some periods of time were also added as control variables in order to achieve more accurate and reliable results (More details are specified in each empirical chapter).

### **3.4.3 Multilevel Confirmatory Factorial Analysis**

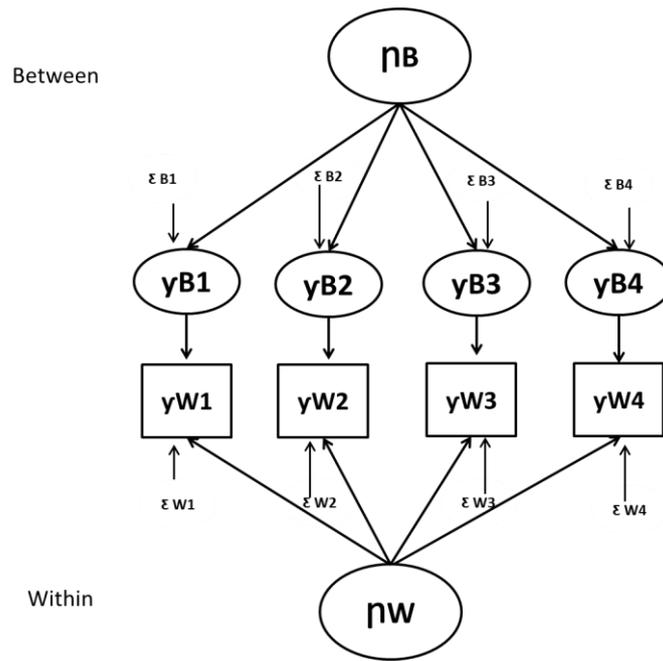
A multilevel confirmatory factorial analysis (MCFA) was carried out in answering the third research question; *Do essential capabilities help to explain Chileans' well-being?* The method selected allowed confirmation of the hypothesised model, but takes into account information collected from a longitudinal Chilean database from 2006 to 2009.

MCFA has become very popular because takes into account the intrinsic hierarchical structure of many social research interests. For example, in educational studies, MCFA allows analysing a specific phenomenon considering that students are clustered in classes, classes are nested in schools and schools are clustered in territories within a nation. In organisational studies MCFA has widely used to analyse persons nested within several levels such as dyads, workgroups, departments and organisations (Dyer et al. 2005)

Muthén (1994) developed the MCFA procedure as a method to overcome unreliable results using traditional techniques for studying hierarchical phenomena without accounting for that attribute. Advantages to accounting for hierarchical structures are related to a better estimation of coefficients among variables compared with common regression models. Moreover, variance is more accurately explained, because individuals are related to specific clusters instead of being considered as equals. Figure 3.4 shows a single generic-factor MCFA model.

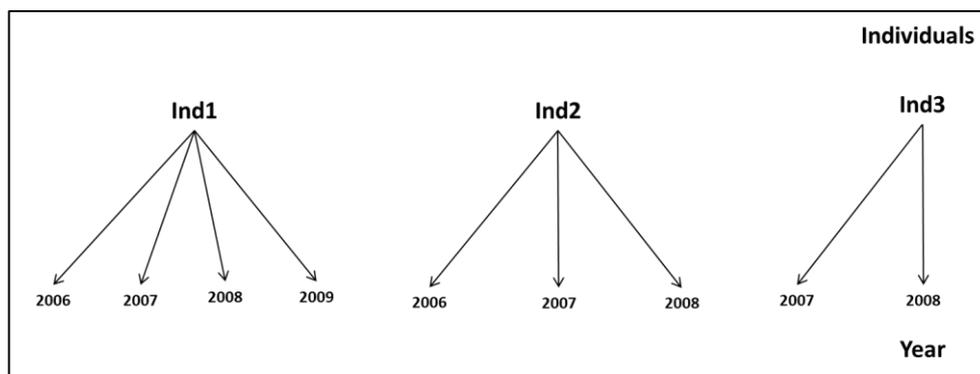
On the bottom part labelled as “within”, a traditional confirmatory factor analysis is shown. Four observed variables ( $y_{w1}$ -  $y_{w4}$ ) represent a single latent factor ( $\eta_w$ ). There are also four random errors ( $e_{w1}$ - $e_{w4}$ ) associated with each item at this level. In contrast, the “between” part on the top of the figure shows four indicators represented by circles ( $y_{B1}$ - $y_{B4}$ ). These are not observed/raw data, but rather represent the group means for each observed indicator ( $y_{w1}$ -  $y_{w4}$ ). Group means load onto the latent variable ( $\eta_B$ ) and these are associated with their respective random error terms ( $e_{B1}$ - $e_{B4}$ ).

Visualising the full model, observed values of the original indicators ( $y_{W1}$ - $y_{W4}$ ) are considered to be a function of both the within- and between-level latent constructs ( $\eta_W$  and  $\eta_B$ , respectively), therefore, MCFA is a simultaneous analysis of both the within- and between-group covariance matrices.



**Figure 3.4** Path Diagram of a one-factor multilevel model. Extracted from Dyer et al. (2005, p.153)

Taking into account the PANEL CASEN database, a MCFA was modeled, considering the hierarchical structure of four waves clustered in individuals. Figure 3.5 illustrates the structure accounted, for example, the individual 1 reports information for all the waves from 2006 to 2009, instead of the other two cases which have missing information for one or more periods. In terms of multilevel models, individuals are cluster variables because each one involves one or more observations by year.



**Figure 3.5** Multilevel structure of CASEN PANEL longitudinal database from 2006 to 2009.

Using the unique identification number for each individual as a cluster variable (IDPERSON), a second-order CFA model was examined. Chileans' well-being was evaluated as an endogenous higher-order latent variable (f4) explained by three latent variables: f1 is being adequately sheltered, f2 is having the means to engage in valued and productive activities and f3 is being healthy.

Being adequately sheltered (f1) is a latent variable represented by two observed variables: having a positive subjective health status perception (y1) and being free from suffering any chronic illness (y2). Having the means to engage in valued and productive activities (f2) is explained by seven observed variables: having higher studies (y3), having a full-time job (y4), individual earnings (y5), having savings (y6), family networks to find a job or undertake a business (y7), others networks (y8) and a subjective socioeconomic status perception (y9).

The third latent variable, being adequately sheltered is represented by three composite observed indicators: access to basic supplies (y10), type of house (y11) and material house quality (y12). Hypotheses expected through this model were positive significant effects of being healthy, adequately sheltered and having the means to engage in productive and valued activities on Chileans' well-being as a higher-order construct (Chapter 2, Hypotheses 7.1 and 7.2). Moreover, positive impacts of having the means to engage in productive and valued activities on being healthy and well sheltered were also examined (Chapter 2, Hypothesis 7.3).

Finally and similarly than the second-order models previously mentioned, a broader range of covariances were applied as control variables in this MCFA. The main goal involving a set of demographic and socioeconomic controls was examining well-being differences within the Chilean population. According to official Chilean reports, people belonging to a minority ethnic group, being older, being a woman, being a parent, being less educated and poorer are most vulnerable than the rest of population (IPOS, 2011-2016). Accounting for those controls variables, Chileans' well being inequalities were hypothesised (Chapter 2, Hypothesis 7.4).

### **3.4.4 Additional Complementary Methods**

Following some proposed steps for identified the best fitted structural model (Kline, 2005; Byrne, 2012) some correlations and regression models were previously carried out in order to examine problems of multicollinearity, higher levels of missing values and interrelationships between both, dependent and independent variables.

A logit ordinal regression examined the effect of a set of covariances on four ordinal dependent variables measuring SWB. Before a CFA model evaluating the existence of hedonic and eudaimonic well-being dimensions, those variables of interest were regressed. On one hand, independent variables included a range of dummies, categorical and continuous variables such as age, having a partner, being a man, having higher educational attainments, occupational status, income quintile perception and year. On another hand, SWB was measured by four ordinal separate indicators: life satisfaction (scaling from 1=dissatisfied to 10=satisfied), happiness (scaling from 1=very happy to 4=not at all happy), freedom of choice and control of your own life (scaling from 1=none at all to 10=a great deal) and having a meaning and purpose of life (scaling from 1=often to 4=never) (See more details in Chapter 5, section 5.3).

A spearman correlation analysis was also developed to examine associations between the four SWB indicators mentioned above. This evidence was useful to identify for example, that life satisfaction, happiness and freedom of choice and control had moderately associated, but meaning and purpose of life was totally independent (See more details in Chapter 5, section 5.3).

### **3.5 Ethical Issues**

This dissertation analysed secondary databases exclusively, therefore, ethical issues are mostly related to authorship rights. The CASEN PANEL is an open access Chilean database which can be requested by any citizen under the Transparent Law 20.285. This law establishes rights to access public information collected by governmental institutions. Databases and methodological documents can be acquired using an online form or by

contacting people in charge of storing databases by email. The World Values Survey is also an international database open for research purposes through an official website as well as data from the World Bank.

Additionally, this study processed some complementary databases to contextualise Chileans' well-being (Chapter 4). Table 3.9 describes all databases used in this work classified by institutions and the download site through which they were obtained.

**Table 3.8** Open Access Databases

Source	Institution	Download Site
Panel Socioeconomic Characterization Survey (CASEN PANEL)	Ministry of Planning, Chile (MIDEPLAN)	<a href="http://observatorio.ministeriodesarrollosocial.gob.cl/casen/casen_usuarios.php">http://observatorio.ministeriodesarrollosocial.gob.cl/casen/casen_usuarios.php</a>
World Values Survey (WVS)	World Values Survey	<a href="http://www.worldvaluessurvey.org/WVSContents.jsp">http://www.worldvaluessurvey.org/WVSContents.jsp</a>
World Bank Database	World Bank	<a href="https://data.worldbank.org/">https://data.worldbank.org/</a>
Socioeconomic Characterization Survey (CASEN)	Ministry of Planning, Chile (MIDEPLAN)	<a href="http://observatorio.ministeriodesarrollosocial.gob.cl/casen/casen_usuarios.php">http://observatorio.ministeriodesarrollosocial.gob.cl/casen/casen_usuarios.php</a>
Bicentennial National Survey (ADIMARK-PUC)	ADIMARK and Catholic University.	<a href="http://encuestabicentenario.uc.cl/">http://encuestabicentenario.uc.cl/</a>
Latin Barometer survey (LB)	Latin Barometer Corporation	<a href="http://www.latinobarometro.org/lat.jsp">http://www.latinobarometro.org/lat.jsp</a>
Public opinion Survey (UDP)	Diego Portales University	<a href="http://encuesta.udp.cl/banco-de-datos/">http://encuesta.udp.cl/banco-de-datos/</a>

Source: Prepared by the author.

Ethical issues in using these databases are mostly related to recognising the authorship rights and keeping the following conditions:

1. Information contained in databases must be used only for research and academic purposes.
2. Databases cannot be totally or partially transferred to third parties or institutions.
3. The name of the institution responsible for data collection must be clearly stated in any report, article or document in which databases were used.
4. The researcher must send a copy of any document or article obtained using databases. Information should be sent by email to the respective institution within the first months of findings dissemination.

This study commits to complying with these requirements according to deadlines. It should also be noted that this research does not have direct interaction with interviewed participants. Databases available include information about housing composition, incomes, labour history and education; nevertheless, this information cannot be connected with specific individuals. Personal details such as names or addresses have been omitted from the open access data versions. Participants' identity is totally confidential and individuals are classified using a numerical and assumed variable as an ID; therefore, informed consent and potential harm to participants did not apply for this research.

# Chapter 4: What do we know about Chileans' Well-being?

## 4.1 Introduction

Using information from national social development reports and databases, this chapter offers an overview to the background on Chileans' well-being in order to contextualise the next empirical chapters. The first section describes those core well-being dimensions covered by the national social policy, putting special attention on the last decade. The second section shows a specific overview based on Chileans' SWB using health and life satisfaction as the main indicators.

## 4.2 Well-being from the National Social Policy Perspective

There are three key periods in Chilean social policy. The socialist regime prior to 1973 focused on higher investment to answer increasing social demands. A military dictatorship regime was in power from 1973 to 1989 in which the social policy was subordinated to a new economic model. Finally, a democratic period from 1990 to 2009 underpinned by the neoliberal economic model was established, but put special emphasis on programmes for priority groups and an efficient use of resources (IPOS, 2014).

The social policy designed prior to 1973 was based on a benefactor government responsible for designing, funding and implemented a set of programmes and social services. The social expenditure during that period systematically increased, seeking maximum coverage, instead of focusing on priority groups or on the efficient use of resources (Raczynski, 1998).

After 1973, Chile replaced an economic model based on communist principles with a neoliberal economic regime. That meant relevant changes to Chilean policy design. For example, a benefactor government was

substituted with a subsidiary one and the social policy was subordinated to macroeconomic criteria instead of social demands. Social expenditure decreased, whereas the privatisation of public services previously managed by the government, increased (Baytelman et al. 1999).

Accounting for the international economic crisis at the beginning of the 80's, social policies were strongly focused on overcoming poverty and unemployment. Later, some interventions in educational and healthcare services produced structural changes with repercussions until the present. The management of both services was decentralised, with the councils instead of centralised departments having the main responsibility for schools and primary healthcare centres. Moreover, an increase in private capital allowed the creation of private schools and a private healthcare system as an alternative to the public one. Social security was also privatised through a new pension system only regulated but not managed by the State.

Preliminary surveys for a better focused policy were implemented during this period. The first instrument (CAS) was created to characterise the most vulnerable social groups. Moreover, in 1987 the National Survey for Socioeconomic Characterisation (CASEN) was applied for first time as well as a "poverty map" identifying the territorial distribution of people with the lowest incomes. All these initiatives sought a better focalisation of the resources (Baytelman et al. 1999).

From 1990 to 2009 Chilean policy was rethought by a democratic government proposing a social policy integrated with the national economy. Under the premise "grow with equity", Chilean social policy was focused on improving Chileans' quality of life and keeping a macroeconomic equilibrium. Initially, national political interventions confronted extreme poverty conditions and income inequality emphasising a higher access to education, labour training, and support for self-employed people. Subsequently, a clearer identification of the priority social groups allowed a

better focus of the resources on the youngest and oldest people as well as women, disabled people, and the indigenous population (IPOS, 2014).

A stable economy from 1990 onwards allowed a systematic increasing of social expenditure, aiming to create capabilities achieving a better life. As a result of greater social investment, absolute poverty (measured by people under poverty line defined by a minimum household income) decreased from 38.6% in 1990 to 11.5% in 2009. In 1996 a structural educational reform was implemented, increasing the access and quality of primary and secondary education through changes to the curriculum, a better articulation between public and private funds, and permanent teacher training opportunities and competence monitoring (IPOS, 2014).

Increases in social expenditure on health allowed investments on sanitary infrastructure and subsidies or gratuity for the most socioeconomically vulnerable groups. A higher number of health workers and improvements in their labour conditions were also part of the actions undertaken by the social policy in the 90's (IPOS, 2014).

Another relevant action implemented the modernisation of public management, creating the first Social Planning Department in 1990 (MIDEPLAN, 2014) responsible for designing, implementing, and monitoring a set of programmes focused on improving living conditions across all of the national territory. Other institutions based on specific population groups were also created, such as The Overcoming Poverty Fund Programme; the Solidarity and Social Investment Fund (FOSIS), the Women's National Service (SERNAM), the National Youth Institute (INJUV), the Indigenous Development Corporation (CONADI) and the National Disabled Fund (SENADIS) (IPOS, 2014).

In 2002, Chile developed "Solidarity Chile", a programme focused on overcoming poverty involving several interventions through a more integral approach. Therefore, recipient families obtained psychosocial support, social networks, gratuity on educational and healthcare services, housing

supplies subsidies and other vouchers. In 2004 a health programme (AUGE) allowed free treatment for a list of high-cost illness, reducing health inequalities within the population. In 2008 a social security reform increased the pensions for older, poor, women and disabled people improving the lower coverage and pensions of the old regime. Finally, in 2009 “Chile Grows with You” was implemented, a complete programme focused on breaking poverty cycles from the early years. “Solidarity Chile” and “Chile Grows with You” opened doors to a new stage of the Chilean social policy based on a social protection perspective from 2010 to the present (Robles, 2013).

In the last 20 years, national social policies have highlighted the relevance of creating capabilities and opportunities to achieve well-being. Even though reducing poverty is still a development aim, social interventions are related to maximising opportunities across the population through an efficient articulation of several sectors and reducing inequalities within the population. Methodological improvements in the instruments measuring quality of life have also been developed. For example in 2014, Chile started to use a multidimensional poverty measurement instead of analyses based on income exclusively. In the same line, the old socioeconomic classification tool based on income was replaced by a new tool involving a wider range of indicators. These methodological changes were aimed at improving the design, implementation and monitoring of programmes over time (MIDEPLAN, 2017).

Figure 4.1 shows the main interventions by policy makers for achieving well-being in Chile during the last two decades. Chilean social policy has been focused on four core dimensions, each of them answered by a set of social programmes.



**Figure 4.1** Core well-being dimensions covered by Chilean policy in the last decade. Prepared by the author based on the National Social Policy reports (IPOS), 2011-2016.

Policies promoting “Education and Culture” are focused on increasing access, quality and equity to educational and cultural services. Some programmes include credits endorsed by the government, scholarships for students and teachers, teacher training and monitoring, cultural activities in neighbourhoods and talent schools.

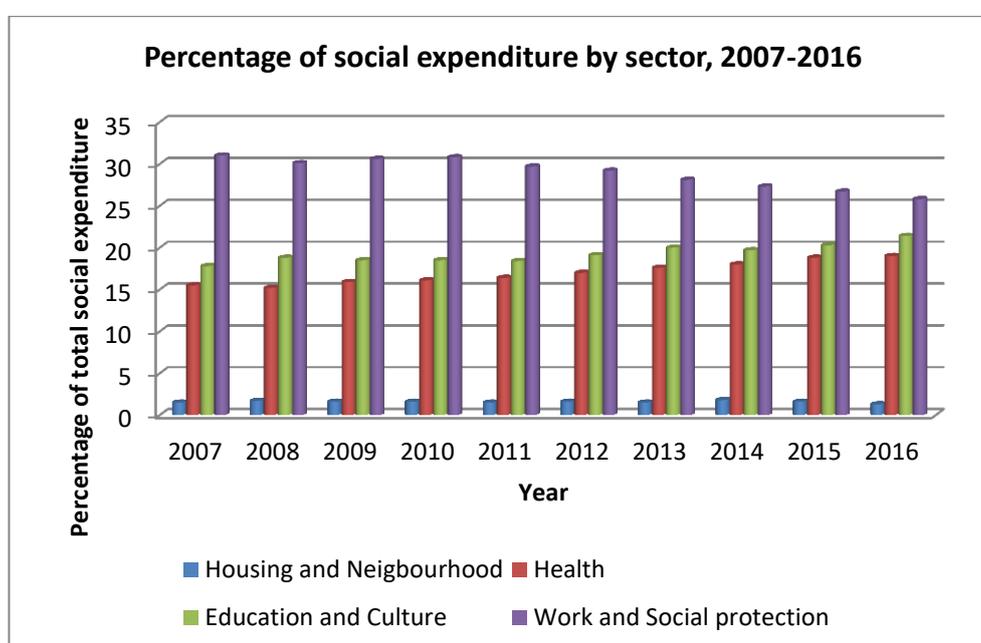
“Work and Social Protection” describes intervention in policies seeking more and better jobs as well as improvements to labour conditions and social protection. Programmes involve subsidies for younger and female householder employees, labour training, credits, subsidies and assistance for self-employed people, unemployment insurance and compulsory pension savings for independent workers among others.

Policies focused on “Housing and Neighbourhood” are related to reducing housing deficit, improving the material quality of houses, recovering priority neighbourhoods, decreasing overcrowding and camps and increasing people’s satisfaction with their environment. Interventions include subsidies to acquire, maintain, build or rebuild a house, participative

programmes to create green and recreational areas and recovery of public spaces.

Policies on “Health” aim to improve the management and efficiency of healthcare centres, attending illness, preventing and confronting smoking and alcohol addictions and promoting healthy life styles. Interventions in these areas include a higher coverage of healthcare attention, programmes preventing obesity, HIV, and cardiovascular illnesses, interventions promoting healthy dietary habits and self-care.

Figure 4.2 reviews the social expenditure designated for each dimension from 2007 to 2016. Most governmental social expenditure is designated to “work and social protection” followed by “education and culture”, “health” and “housing and neighbourhood” respectively. Trends over time suggest a slight drop of social expenditure on “work and social protection”, whereas “education and culture” and “health” have permanently increased. Conversely, “housing and neighbourhood” remains lower than 2% and stable over time.



**Figure 4.2** Percentage of social expenditure by core well-being dimensions, 2007-2016. Prepared by the author based on Dipres, 2017.

According to national statistics, work and social protection expenditure is mainly focused on social security for later life and housing subsidies. Health

expenses on public medical centres management. Educational spending on pre-school, primary and secondary educational services and housing expenses on urbanisation and water supply (DIPRES, 2017). All these programmes are focused mostly on children, adolescents and older people.

A classification of social programmes by social policy goals suggests that governmental efforts are concentrated on reducing inequality, quality of education, overcoming poverty, promoting decent work, and health and well-being (IPOS, 2016). Table 4.1 describes a list of social programmes answering the core well-being dimensions in Chilean social policy during the last five years. Most of the programmes implemented are concentrated on education, social protection and health, whereas those areas less intervened in are science, technology and connection, urbanisation, transport and public areas, environment and justice. Otherwise, culture, justice, environment and natural resources, and social protection show an increasing number of programmes implemented over time, whereas the other areas show fluctuations during the period analysed.

**Table 4.1** List of social programmes implemented from 2012 to 2016

<b>Social Programmes</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>Total</b>
Physical Activity and Leisure	14	15	24	12	10	75
Alcohol and Drugs	1	8	16	13	12	50
Science, Technology and Connection	3	15	2	1	2	23
Culture	1	21	34	41	44	141
Education	89	101	123	111	117	541
Self-employment	8	21	14	10	12	65
Productive Development	9	12	7	8	7	43
Justice	4	8	5	8	10	35
Environment and Natural Resources	2	3	9	9	10	33
Citizen Participation and Organisation	7	14	23	27	23	94
Social Protection	49	65	68	83	91	356
Health	68	70	12	39	42	231
Public Safety	6	3	14	10	11	44
Salaried Work	9	8	8	21	21	67
Urbanisation, Transport and Public Areas	9	5	1	7	7	29
Housing	22	17	12	27	25	103
<b>Total</b>	<b>301</b>	<b>386</b>	<b>372</b>	<b>427</b>	<b>444</b>	<b>1930</b>

Source: Prepared by the author based on social policy reports, 2012-2016, MIDEPLAN.

In conclusion, education, social protection and health respectively are the areas most intervened on Chile. This evidence is consistent with a paradigm based on social promotion and protection underpinning national social policy from 2010 to the present. A greater social expenditure on pre-school and secondary education as well on programmes focused on reducing poverty and inequality, promoting labour inclusion, and health reflect a policy based on creating capabilities and opportunities.

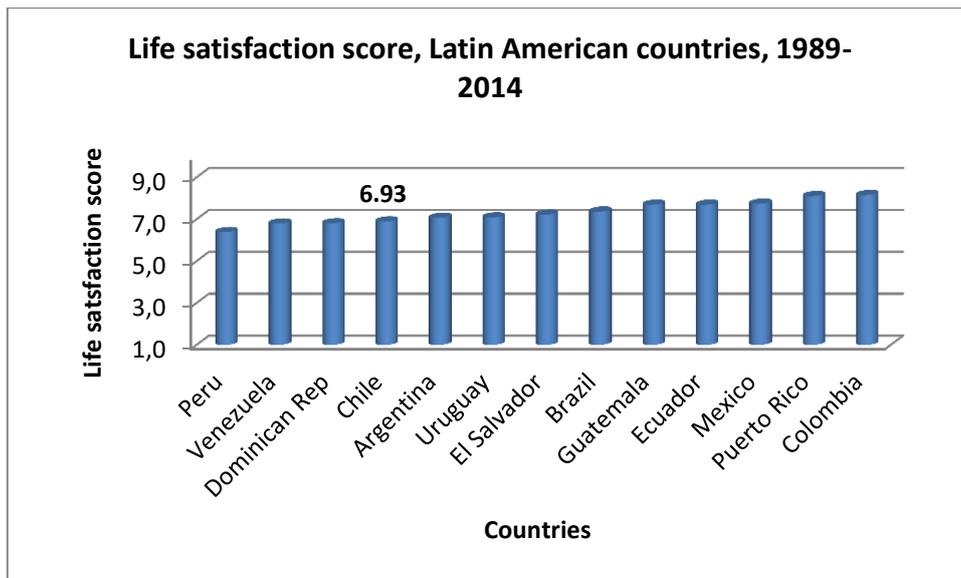
### **4.3 Subjective Well-being in Chile**

Conversely to those core well-being dimensions considered in the national policy reports, SWB indicators are still missing from social policy design. Through this section, a brief preliminary SWB analysis is developed using some national and international databases. Overall life satisfaction, life satisfaction by domains, happiness, and health status perception are the indicators examined.

#### **4.3.1 Life Satisfaction**

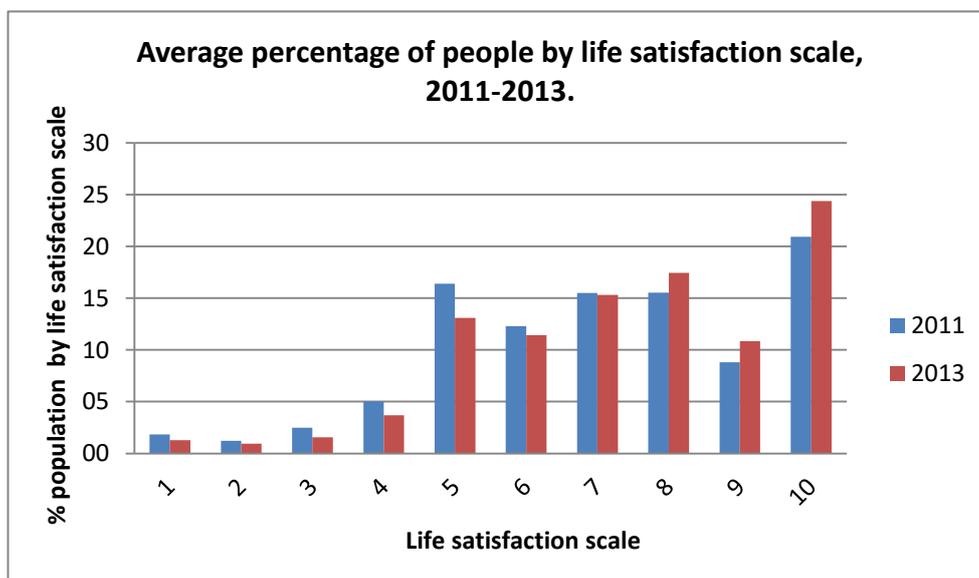
A review of the international literature shows that life satisfaction is one of the most common SWB measures used (Waldron, 2010; Dolan and Metcalfe, 2012; Hicks et al, 2013). Information is collected with the question: *In general, would you say that you are satisfied with your life?* Scaling from 1 to 10 in which 1 means completely dissatisfied and 10 completely satisfied.

According to the World Values Survey (Inglehart et al. 2014) Chileans' life satisfaction was in place 28 out of a total of 60 nations surveyed, whereas, in the Latin Barometer, Chile scored 6 out of a total of 19 countries in 2016. As figure 4.3 shows, life satisfaction in Chile scores 6.93 points of a maximum of 10 points, being higher than Dominican Republic and Peru, but lower than countries such as Colombia, Puerto Rico, Mexico, Guatemala, Ecuador, Brazil, El Salvador, Uruguay and Argentina.



**Figure 4.3** Life satisfaction by Latin American countries, N= 51,992. Prepared by the author based on World Values Survey, 1989-2014.

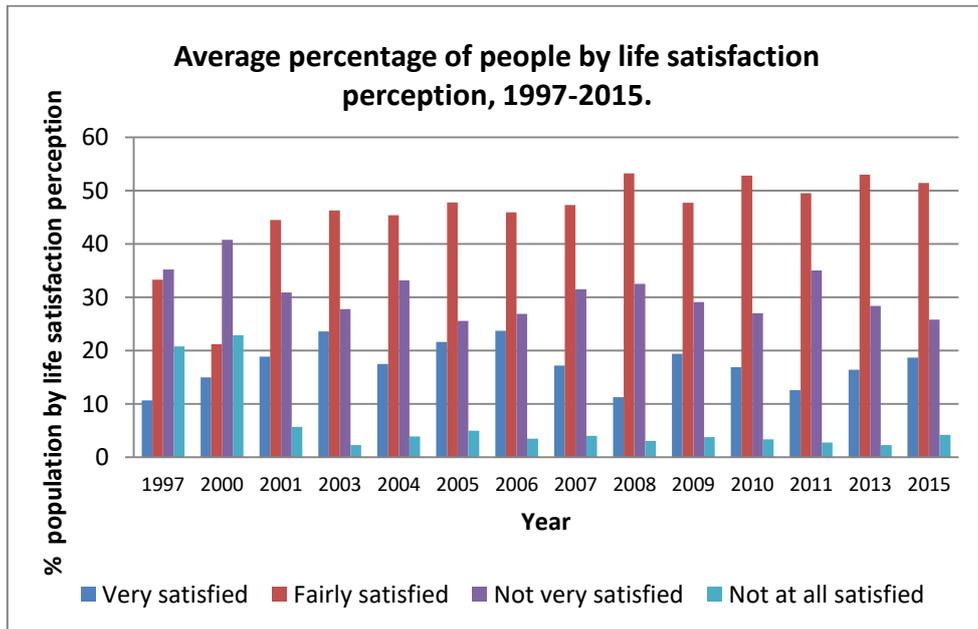
Data exclusively based on the national CASEN survey for 2011 and 2013 reveal that most Chileans have scores over 5 points. Nevertheless, figure 4.4 reveals a small polarised group with the lowest life satisfaction scores.



**Figure 4.4** Prepared by the author based on the CASEN survey, 2011-2013, n= 204,342. Differences by year are significant at 0.01.

Similar results were found in the unique study on SWB in Chile developed by UNDP in 2012. Chileans positively evaluate their global life, reporting higher levels of life satisfaction, even controlling by age, sex, income and

marital status. Figure 4.5 shows variations on life satisfaction over time, using the Latin Barometer survey from 1997 to 2015.



**Figure 4.5** Prepared by author based on the Latin Barometer Survey, Chile, 1997-2015, n=1,200.

The findings support the assumption that Chilean people feel a higher satisfaction with their overall life, demonstrated in a trend from 2001 to 2015. Conversely, higher dissatisfaction levels are observed in the periods prior to 2001 which might be explained by some contextual factors in the 90's.

Chile transitioned from a military regime led by Augusto Pinochet from 1974 to the return of democracy in 1990, polarising the population between those who agreed with the new political regime and those who were against. Moreover, Chile was particularly affected by natural disasters during the 90s, for example, in 1995 the south experienced “the white earthquake”; droughts in the middle regions affecting agricultural activities in 1996 and floods in 1997 across mid and southern areas. The national economy was negatively affected by these disasters and the government spent on rebuilding cities and supporting affected people (MIDEPLAN, 1996).

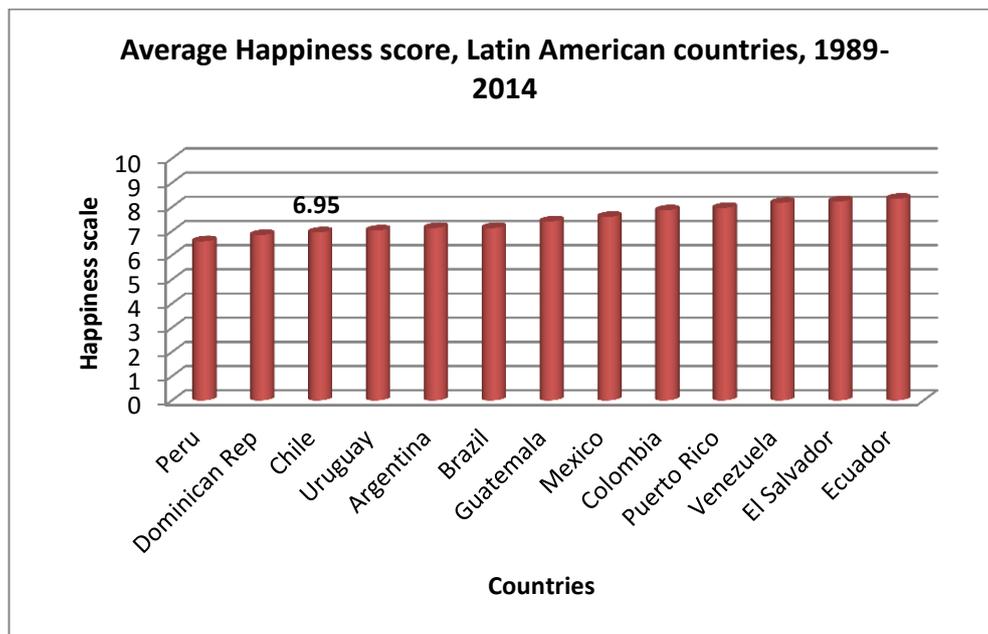
The Asiatic crisis which started in 1997 is considered perhaps the most relevant event that negatively impacted the Chilean socioeconomic condition in the 90's and even until the middle of the 2000's. In 1994, Chile established an economic alliance with China, Japan and South Korea through the Asian Pacific economic cooperation (APEC). During the Asiatic crisis, national GDP dropped and the unemployment rate reached around 12% in 1997 (World Bank, 2010).

As was expected, all the factors mentioned had an impact on people lives, reflecting a lower overall life satisfaction prior to and in 2000. Further research should illuminate the link between contextual events and people's SWB, taking into account the particularities of Chile. For example, we know little about the relationship between SWB and political regime and reforms, the topic only being referred to in the UNDP report based on Chilean well-being in 2012. Wisdom on how natural disasters impact individuals' SWB is also relevant considering that Chile is often affected by multiple natural events. Finally, although some Chilean studies have hypothesised a negative relationship between the neoliberal economic Chilean model and people's well-being (see for example, Atria, 2006; Kennedy and Murray, 2012; Cornia, 2014), findings are not conclusive, requiring deeper exploration in the future.

### **4.3.2 Happiness**

As well as life satisfaction, happiness is another SWB commonly examined internationally and usually collected by the Cantril Ladder Question. People answer questions about their overall life feelings imagining a ladder with steps numbered from zero at the bottom (not happy at all) to 10 at the top (completely happy). According to the World Happiness Report (Helliwell et al. 2016) Chile scored 25<sup>th</sup> out of a total of 141 nations surveyed, reporting lower happiness than other Latin American countries such as Argentina, Bolivia and Brazil. Similarly, in the Gallup World Poll (2014-2016) Chile occupied place 20 of a total of 154 countries, Costa Rica being the only Latin American nation scoring above Chile.

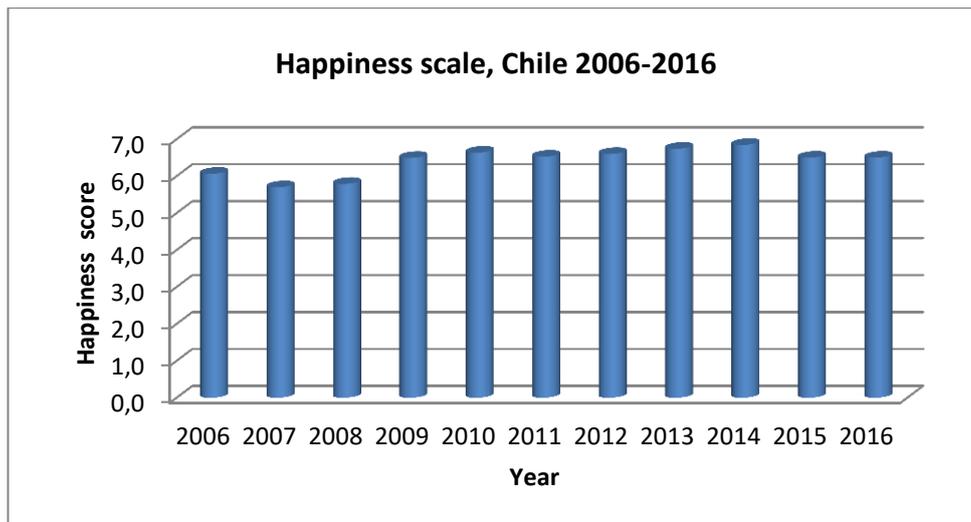
Accounting for a broader period of time, figure 4.6 shows the overall happiness scores for a group of Latin American countries from 1989 to 2014. Data suggests higher overall happiness across countries, because no scores lower than 6 points are reported. Nevertheless, Chile places between the countries less happy in the region, only scoring better than Peru and Dominican Republic.



**Figure 4.6** Happiness by Latin American countries, N= 51,992. Prepared by the author based on the World Values Survey, 1989-2014.

Although the literature suggests that life satisfaction is a more stable well-being indicator than happiness, because it is based on an overall life evaluation rather than short-term emotive connotations (Gundelach and Kreiner, 2004; Kelley and Evans, 2017) Chile reveals similar scores in both cases, contrasting to Ecuador, El Salvador and Venezuela in which people reported higher happiness than life satisfaction (Figure 4.3).

Figure 4.7 highlights a relatively stable happiness score in Chile, showing over 6 points out of a maximum of 10, from 2009 to 2016. Interestingly, the lowest happiness scores are reported between 2006 and 2008, the years in which Chile was mostly affected by the international economic crisis in 2007 (Arellano, 2012). This preliminary evidence opens questions about the impact of the contextual changes on people's SWB.



**Figure 4.7** Prepared by author based on the World Happiness Report, 2016.

### 4.3.3 Subjective well-being by domains

As mentioned in the literature review, studies focused on SWB have drawn attention to the ambiguity of the concept and the type of indicators used to measure it (Sen, 1999; Nussbaum, 2003; McGillivray, 2007; Stiglitz et al. 2010). Even though global life satisfaction and happiness are the most common SWB measure used at the international level, current SWB analyses for policy purposes highlight the inclusion of more specific indicators (Helliwell and Barrington-Leigh, 2009; Waldron, 2010; Dolan and Metcalfe, 2012; Layard, 2010; Krueger and Stone, 2014).

Particularly, new questions involve specific life domains such as satisfaction with work, family life, community and place of residence, among others. Moreover, efforts measure “the eudaimonic dimension” through the most relevant surveys at the world and European level have been recently undertaken (Helliwell et al. 2009; Waldron, 2010; Diener, 2012).

Table 4.2 summarises the overall scores for some Latin American countries from 1989 to 2014 accounting for life satisfaction, happiness and two specific life-domain indicators, socioeconomic satisfaction and health status perception. Lower scores in socioeconomic satisfaction across countries reveal the importance of considering a wider well-being measure. In the

Chilean case, socioeconomic satisfaction is at least 15 points lower compared to other indicators as well as the rest of the countries. Moreover, although health status is nearer to life satisfaction and happiness scores, excluding Peru, Chile has the lower score between these nations.

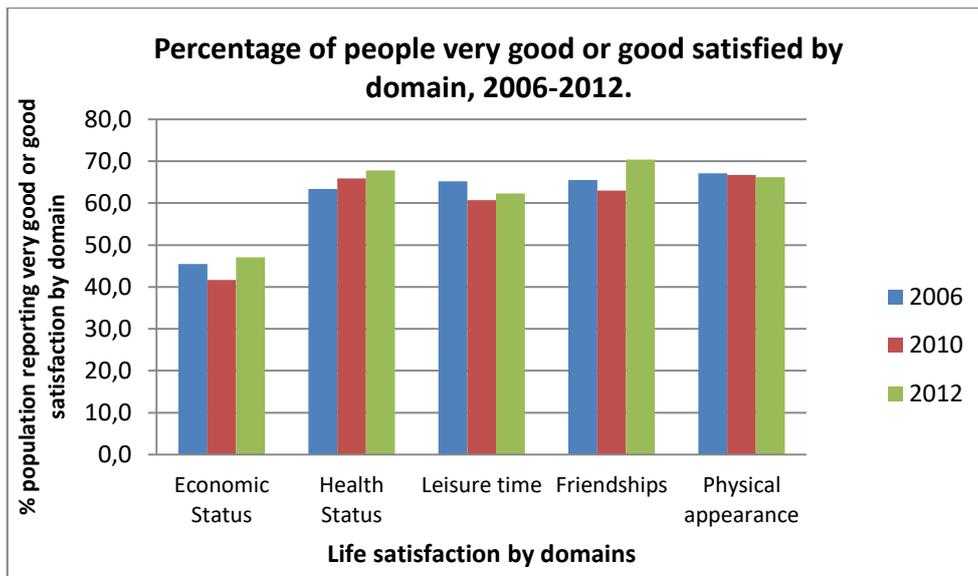
**Table 4.2** Subjective well-being by Latin American countries, 1989-2014

	Life satisfaction	Happiness	Socioeconomic satisfaction	Health status	Total
Argentina	70.6	71.3	52.7	70.1	66.2
Brazil	73.5	71.4	53.8	73.1	68.0
Chile	69.3	69.5	53.6	67.6	65.0
Colombia	81.4	78.6	73.0	73.8	76.7
Dominican Republic	68.1	68.4	52.7	72.8	65.5
Ecuador	77.0	83.4	63.0	73.2	74.2
El Salvador	72.2	82.3	58.7	69.7	70.8
Guatemala	77.0	74.0	56.3	70.0	69.3
Mexico	77.4	75.9	65.0	69.2	71.9
Peru	63.9	65.8	49.7	63.6	60.7
Puerto Rico	80.6	79.6	68.1	73.0	75.4
Uruguay	70.9	70.4	61.3	73.8	69.1
Venezuela	68.1	81.8	51.1	75.3	69.1

Source: World Values Survey, 1989-2014. Life satisfaction, happiness, socioeconomic satisfaction and health status by Latin American countries, N= 51,992.

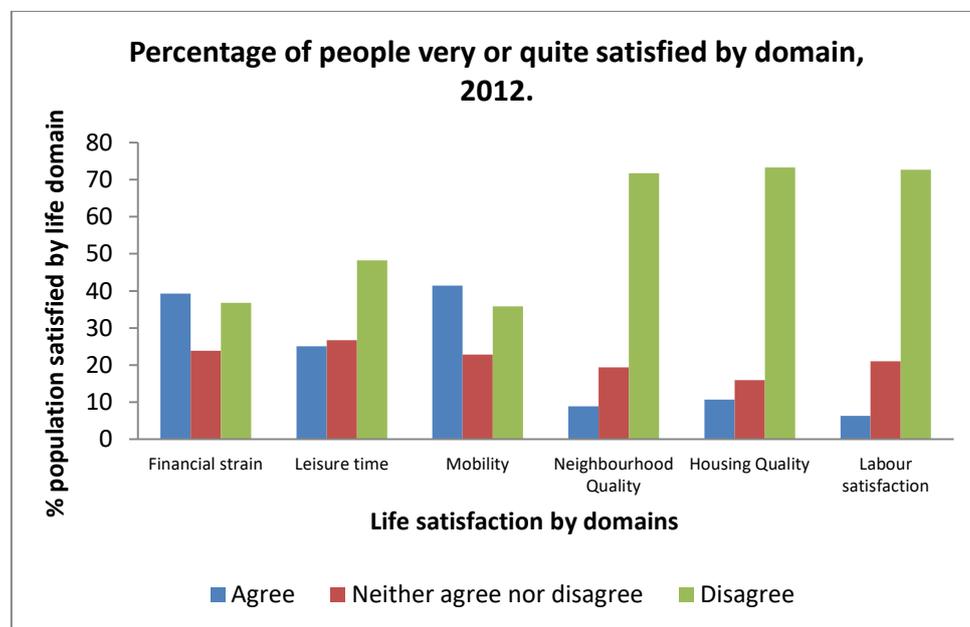
These findings reinforce those recommendations by some subjective well-being studies which report the importance of evaluating life satisfaction by specific life aspects (Diener, 2000; Rojas, 2011; UNDP, 2012). Analysis based on overall life satisfaction can hide potential dissatisfaction in particular life domains such as health, socioeconomic status, family life and job. In this sense, a detailed SWB data collection in the future is highly recommended.

Taking advantage of some national databases examining SWB by domains, figure 4.8 shows that Chileans are satisfied with their friendships, health status, physical appearance and leisure time respectively; nevertheless, a lower satisfaction is associated with their socioeconomic status. Data also suggests that except for some slightly variations, patterns by period are similar.



**Figure 4.8** Prepared by the author based on ADIMARK-PUC, 2006-2012, n=6,065. Differences by year are all significant at 0.01

Although Chileans seem to be mainly unsatisfied with their socioeconomic status, figure 4.9 puts forward the importance of other people's life aspects. Asking for the agreement level on six domains, results show that Chileans' SWB is far from being only related to an economic matter.



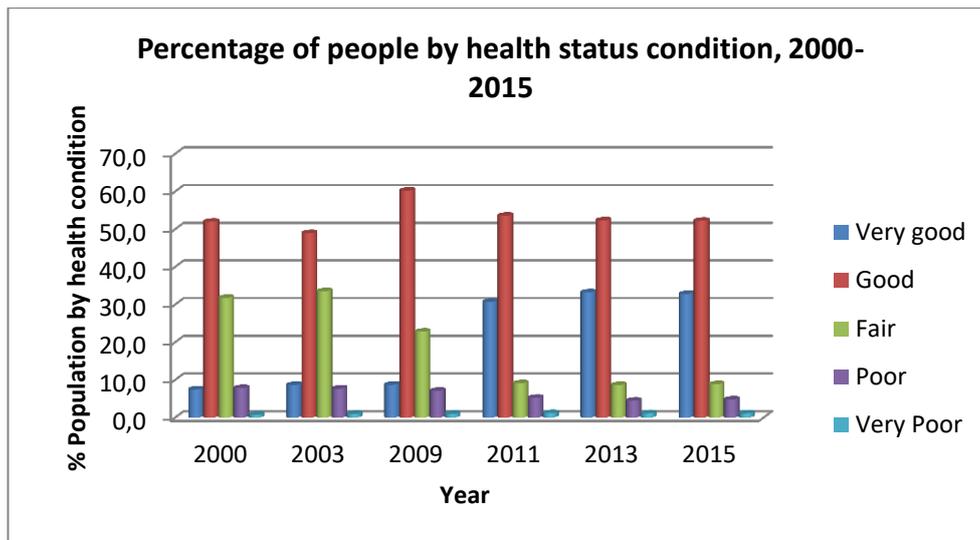
**Figure 4.9** Prepared by the author based on ADIMARK-PUC, survey 2012, n=2,011. Differences by domain are all significant at 0.01.

Around 40% of Chileans agree about feeling financially strained by debts, which is similar to conclusions obtained from the official Chilean surveys in which Chileans declare high levels of debt (MIDEPLAN, 2014; ADIMARK-PUC, 2016) Additionally, data suggest that other life domains are even worse than socioeconomic status. For example, labour satisfaction and neighbourhood/housing quality show over 70% of people are dissatisfied. Besides, individuals dissatisfied with their leisure time are even higher than people dissatisfied by feeling financially stressed.

These findings suggest that even though the socioeconomic aspects of Chileans' well-being are highly relevant, other dimensions related to social interactions and quality of life are also crucial for a better understanding of SWB. At present, subjective health status has been the specific life-domain indicator most present in the national data collection. From 2000, the CASEN survey includes the question *Do you think that your current health status is..?* Scaling from 5 (very good health) to 1(very poor health).

Figure 4.10 shows the percentage of people by health status from 2000 to 2015 across six periods collected by the CASEN. The findings suggest that most Chileans in the period 2000-2009 labeled their health status as good, followed by a fair health status. From 2011 to 2015, Chileans seem to be polarised between those who declared very good or good health conditions, whereas a lower group is highlighted by a fair, poor or very poor health status perception.

According to the last national social development report (MIDEPLAN, 2015), a better health status perception from 2011 to 2015 might be associated with a greater participation in the public healthcare system by the youngest (10-19 years old) and oldest groups (over 60 years old). Social policies explaining a higher healthcare system inclusion might be due to health fees exemptions for children of school age, people in the lowest income quintile and retired or pensioned individuals (MIDEPLAN, 2013).



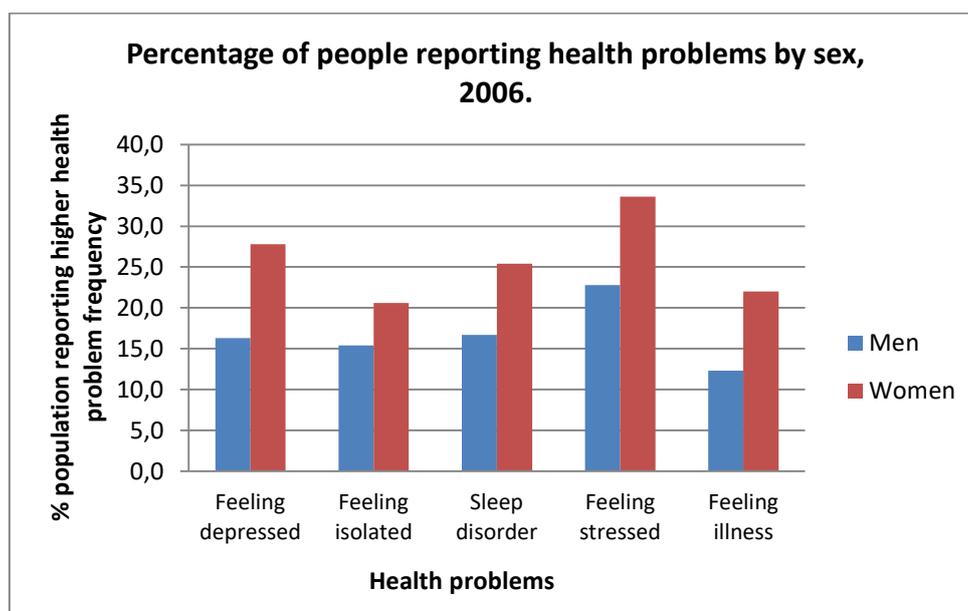
**Figure 4.10** Prepared by the author based on the CASEN survey, 2000-2015, n= 1,164,933.

Health analyses of Chilean people developed by policy makers also show health differences within the population. For example, people over 60 years old and women report higher medical attention due to an illness than younger people and men (MIDEPLAN, 2015). In terms of subjective health status, some findings suggest that health well-being decreases over time becoming lower within older groups (Helliwell, 2003; Plagnol, 2010; UNDP, 2012; Vera-Villarroel et al. 2012); however, health status controlling by gender shows that self-perception is even worse in women than men across all the age groups.

These results are consistent with a higher prevalence of depression and intensive emotions found in women rather than men (See Diener et al. 1999 for a review) Furthermore, health well-being shows a permanent rise through income deciles; being better in the richest groups. Similar conclusions have been obtained from other studies (See Dolan et al. 2008 for an international review and Vera- Villarroel et al. 2012 and UNDP, 2012 based on the Chilean case).

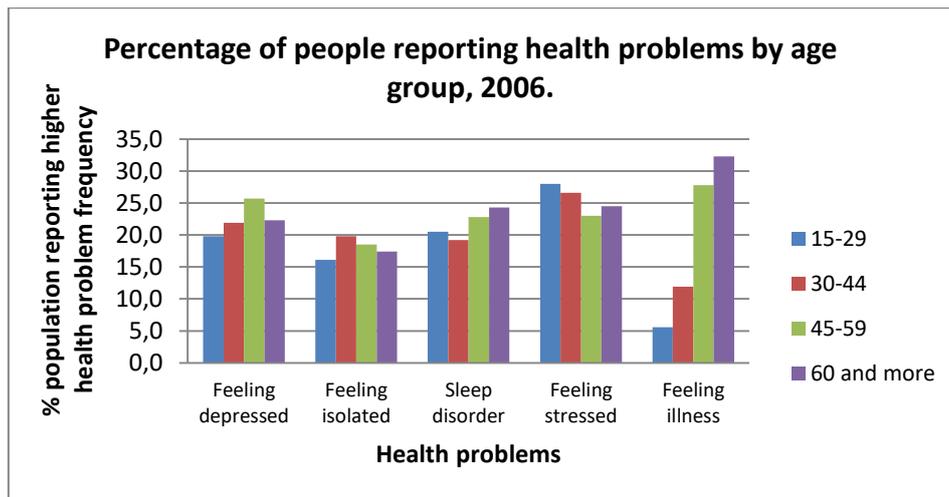
Using a complementary database applied in Chile by ADIMARK-PUC aiming to annually collect public opinion on emergent topics; a major health perception analysis can be achieved. Figure 4.11 shows a set of indicators measuring health differences by sex across five indicators (ordinal scale

from 1 which means people have never reported that feeling to 5 as a higher frequency of that feeling). Data reveals that “I usually feel stressed” is concentrated at higher percentage in both, men and women, followed by “I usually have depressive feelings”. Despite this, the presence of health problems is significantly higher in women than men across all the indicators covered.



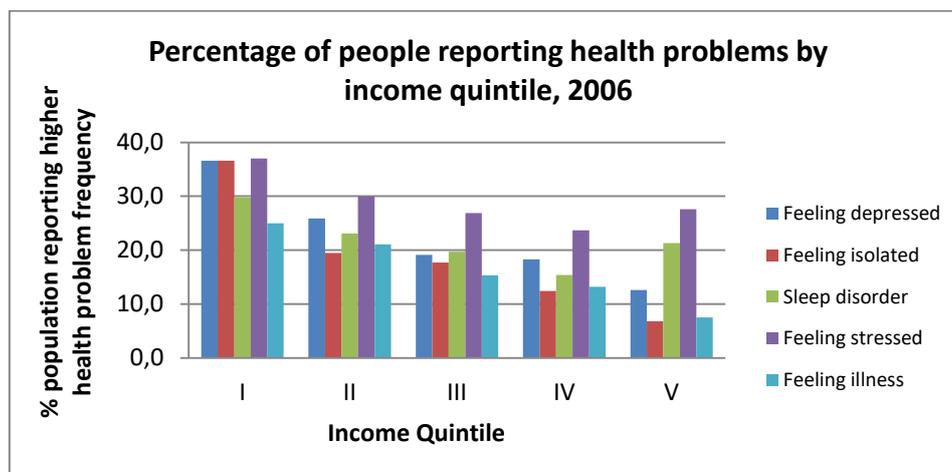
**Figure 4.11** Prepared by the author based on ADIMARK-PUC survey, 2006, n=2,042. Differences by sex are all significant at 0.01.

Health status comparisons by age group also suggest some variations over people’s life-course. Figure 4.12 shows that health differences by age are mainly related to physical aspects such as feeling illness or having sleep disorders, being consistent with a lower health status expected in later life as a result of a natural decline in health (Easterlin, 2006; Dolan et al. 2008; Oswald and Powdthavee, 2008). In contrast, feeling depressed, isolated or stressed are less unclear, suggesting that psychological aspects affecting people’s health are more likely in younger years or middle-age as an effect of multiple social pressures and educational and labour demands (Blanchflower and Oswald, 2007; Blanchflower and Oswald, 2008 Helliwell and Barrington-Leigh, 2010).



**Figure 4.12** Prepared by the author based on ADIMARK-PUC survey, 2006, n= 2,042. Differences by age are only significant at 0.01 by sleep disorder and feeling illness.

Finally, figure 4.13 reveals a clear trend in more health problems reported by people located with the lowest income. In contrast, individuals classified in the last two quintiles show better health perception, except for feeling stressed and having sleep disorders which increase in the fifth quintile comparing with the third and fourth quintiles. A possible interpretation could be that the richest people confront more competitiveness in maintaining or improving their socioeconomic status and prestige. Meanwhile, in the other extreme income distribution, a lower health perception could be associated with constant financial strain and basic needs only being partially satisfied (OECD, 2013; Tay et al. 2011).



**Figure 4.13** Prepared by the author based on ADIMARK-PUC survey, 2006, n=2,042. Differences by income quintile are all significant at 0.01.

Results are preliminary suggesting that women, older groups (in a physical health dimension) and vulnerable socioeconomic groups have a lower health status than men, younger people or people in the middle-age (except for mental health indicators) and people in higher income quintiles. Taking into consideration this evidence, the next empirical chapters examine how SWB varies when these kinds of individual characteristics are controlled.

Future national data collection should move to a wider range of SWB indicators, improving our current wisdom, but also allowing researchers to contribute to policy making by providing accurate information. The present work pursues that purpose, making the first steps in understanding an emergent matter in both national research and the current political agenda in Chile.

The next three chapters are precisely focused on empirical analyses based on the Chilean case. Chapter 5 examines SWB as a multidimensional concept, evaluating if hedonic and eudaimonic well-being are distinctive dimensions. It is expected a positive association between both dimensions, but also, a greater relevance of the eudaimonic component on SWB in Chile. There are not national studies based on this approach, then, this is a pioneer question for our context.

Chapter 6 explores the association between individual SWB and two societal factors, the level of confidence in national institutions and the existence of a generalised trust in society. This chapter contributes to demystify SWB as a phenomenon strictly individual, reinforcing the impact of the society in which individuals live.

Chapter 7 analyses Chileans' well-being going beyond subjective aspects. It is evaluated if some basic capabilities in the basis of the Chilean social policy influence people's well-being and how these capabilities are interrelated. Moreover, controlling for a set of demographic and socioeconomic variables, it is expected to know how those capabilities are distributed within the Chilean population.

These three empirical chapters follow the same structure, firstly a brief introduction and then, an empirical framework underpinning the research question and hypotheses. A third section includes results and subsequently, a fourth section discussing those results in relation with other studies. A fifth section is focused on the main conclusions and limitations of the research. Finally each chapter ends providing some guidelines for future social policy design in Chile.

# Chapter 5: Hedonic and Eudaimonic Subjective Well-being in Chile

## 5.1 Introduction

The main question examined through this chapter is *Are hedonic and eudaimonic distinctive components of Chileans' subjective well-being?* Using data from the World Values Survey (WVS) collected from 1990 to 2014, this chapter explores the existence of hedonic and eudaimonic as two distinctive SWB dimensions in Chile.

An extensive body of literature has been focused on these two overlapped philosophical well-being perspectives as was previously discussed in the literature review (Chapter 2, section 2.3.1). Whereas the hedonic perspective supports a good life as feelings of happiness, pleasure and little pain, the eudaimonic approach understands well-being as flourishing lives in which people are able to develop their potential (Waterman, 1993; Ryan and Deci, 2000; Keyes and Anna, 2009).

Both perspectives have been empirically analysed using differentiated indicators. Whereas the hedonic component involves life satisfaction and happiness, the eudaimonic dimension includes a range of functionings to achieve a fulfilled life, such as satisfaction of human basic needs, freedom of choice and getting socially involved among others (Diener, 1984; Diener et al. 1999; Ryff and Keyes, 1995).

Through the literature review, a strong focus on the hedonic dimension in contrast to the eudaimonic has been noted in empirical studies (Huppert et al. 2009; Helliwell et al. 2012). Although SWB is theoretically understood as a multidimensional construct, its measurement tends to be centred on what people feel or think about their lives, especially in the Chilean case.

Chilean SWB research is not an exception, showing a greater emphasis on happiness and life satisfaction, rather than a broader SWB conception combining both, positive feelings and effective functionings to flourishing. (UNDP, 2012; Ibañez, C, 2013).

Tackling that drawback, this chapter evaluates the existence of both, hedonic and eudaimonic dimensions explaining Chileans' SWB. Using a confirmatory factorial analysis (CFA) as the main method, two models are carried out. A first model examines SWB as a multidimensional concept explained by four indicators: life satisfaction, happiness, freedom of choice and control, and meaning and purpose of life. Then, a second model evaluates SWB as a higher-order construct explained by two distinctive components: hedonic (life satisfaction and happiness) and eudaimonic (freedom of choice and control, and meaning and purpose of life).

A first hypothesis examines hedonic and eudaimonic metrics as correlated, but differentiated SWB dimensions. A second hypothesis evaluates the effect of both, hedonic and eudaimonic dimensions on Chileans' SWB, expecting a greater impact of eudaimonic, instead of hedonic dimension. A third hypothesis considers that SWB might substantially differ according to some personal attributes. Finally, and taking advantage of the broader period covered by the WVS (From 1990 to 2014), a fourth hypothesis investigates the impact of time on both, hedonic and eudaimonic dimensions, expecting no significant effects on the later one.

**H5.1:** Hedonic and eudaimonic are correlated, but also differentiated components of the Chileans' subjective well-being.

**H5.2:** The eudaimonic dimension has a greater effect on Chileans' subjective well-being than the hedonic component.

**H5.3:** Hedonic well-being is positively predicted by being younger, educated, living in partnership and having higher incomes and negatively by being older, retired or unemployed and having lower incomes. Eudaimonic is positively affected by being older, being educated, having a higher income and negatively by being unemployed, retired and lower incomes.

**H5.4:** The eudaimonic dimension is not significantly impacted by time controlling by other socio-demographic variables.

Accounting for all the hypotheses mentioned, it is expected that this chapter gives useful insights for Chilean policy makers. Firstly, incorporating the eudaimonic component as a missing element in current well-being knowledge in Chile. Secondly, using a set of demographic and socioeconomic variables examining hedonic and eudaimonic disparities within the Chilean population and finally, evaluating variations on hedonic and eudaimonic SWB dimensions over time.

This chapter firstly offers a brief empirical framework underpinning the hypotheses mentioned above. Then, the results obtained from the CFA are described, answering each hypothesis. Subsequently, a discussion section contrasts the findings obtained with the current literature. Then, some conclusions, limitations and challenges of this work are presented. Finally, some social policy guidelines based on the results are presented.

## **5.2 Empirical Framework**

Taking into consideration the contribution from positive psychology this research proposes an analysis of Chileans' well-being distinguishing by hedonic and eudaimonic dimensions. As previously mentioned in the literature review, there are several empirical studies at the international level underpinning that distinction (Section 2.3.1).

For example, analysing countries' samples, Clark and Senik (2011) found that people might declare lower eudaimonic scores and feeling highly satisfied and happy at the same time. Huppert and So (2013) concluded that "flourishing" understood as positive psychological state is a correlated, but different factor than life satisfaction in 23 European nations. Vanhoutte (2013) also observed in 29 European countries that happiness and life satisfaction are concentrated in a different unique factor compared with other indicators close to the eudaimonic dimension.

Based on individual samples, Waterman (1993) found a higher correlation between personal expressiveness as eudaimonic indicator and pleasurable experiences in higher education students. Similar conclusions supporting the existence of hedonic and eudaimonic well-being are found in Keyes and Annas (2009) for American adolescents, American college students, and Black South Africans and Keyes (2005) for people declaring a mental health problem versus healthy individuals.

Contrary to the international evidence, there is no national research covering this issue. The unique SWB study in Chile developed by the UNDP (2012) does not take into consideration the hedonic/eudaimonic distinction. Through our review of national studies, an emphasis on hedonic, instead of eudaimonic well-being was found. In fact, Ibañez (2013) is the only researcher who includes “flourishing well-being”, as a concept close to eudaimonic well-being, although using a basic descriptive analysis (Section 2.5).

The nonexistence of eudaimonic data in the national surveys and a hedonic analysis highly focused on the evaluative aspect only (life satisfaction) could be explained by the lack of data available. Nevertheless, this dissertation takes advantage of an international dataset covering SWB information for Chile from 1990 to 2014. Accounting for the current evidence, it is firstly expected that hedonic and eudaimonic are overlapped, but distinctive SWB components (Section 5.1, H5.1).

Moreover, a greater effect of eudaimonic instead of hedonic well-being on SWB it is also examined through the second hypothesis. While hedonic is related to pleasurable experiences and positive feelings (Kahneman et al. 1999; Diener et al. 1999), eudaimonic considers a wider and more complex range of functionings related to positive psychological well-being and flourishing (Deci and Ryan, 2008). As previously mentioned in the literature review, there are several instruments examining eudaimonic well-being through dimensions such as self-acceptance, autonomy, positive social interactions and meaning and purpose of life among others (Chapter 2, section 2.3.1.2). Most of them also propose that some eudaimonic aspects

are also essential basic needs for achieving a better life and therefore, clearer indicators of SWB compared with fluctuating feelings and life judgements such as life satisfaction evaluations and happiness (Kashdan et al. 2008; Delle- Fave et al. 2011).

The unique study focused on eudaimonic well-being in Chile suggests that having positive relationships and achievement goals are more relevant in explaining well-being than positive life satisfaction and feelings (Ibañez, C, 2013). Therefore, this dissertation contributes on one hand, to confirming the pertinence of the hedonic/eudaimonic distinction and on the other hand, examines what is more relevant explaining Chileans' SWB.

Similarly, a third hypothesis explores the impact of several individual predictors on both, hedonic and eudaimonic components. Accounting for some key individual variables usually presented in the official national development reports (Chapter 4, section 4.2); this thesis examines the effect of age, sex, marital status, parenthood, educational attainment, income level and occupational status on hedonic and eudaimonic dimensions. A positive effect on hedonic well-being is predicted among those who are younger, educated, living in partnerships and having higher incomes and a negative effect is predicted by being older, retired, unemployed and having lower incomes. Conversely, eudaimonic well-being should be positively affected by being older, being educated, having higher incomes and negatively by being unemployed, retired and having lower incomes.

Those predictions are underpinned by previous studies discussed in the literature review (Chapter 2, section 2.4.1). For example, several studies have found a positive association between youth and life satisfaction and happiness, whereas these hedonic aspects tend to decrease in mid-life (Helliwell, 2003; Blanchflower and Oswald, 2007; Blanchflower and Oswald, 2008). On the other hand, being older should have a positive impact on the eudaimonic dimension because experiencing sense and a meaningful life are mostly valued in the life cycles of more mature people (Clark and Senik, 2011; Delle-fave et al. 2011; Helliwell et al. 2012).

According to an extensive body of literature supporting a positive association between SWB and incomes (Inglehart, 1990; Bookwalter and Dalenberg, 2004; Diener and Ryan, 2008; Dolan et al. 2008, Howell and Howell, 2008), it was also expected that both, hedonic and eudaimonic well-being are positively predicted by higher incomes and negatively for lower ones. In a similar vein, having higher educational attainments should positively impact on Chileans' SWB because education is recognised as an essential means to satisfy basic needs through better earnings (Cartagena, 2014, MIDEPLAN, 2017), but it is also an opportunity to develop positive psychological skills related to competence, autonomy and self-esteem (Diener et al. 1999; Dolan et al. 2008; Helliwell et al. 2012).

Accounting for occupational variables, it is also expected that being retired or unemployed will have a negative effect on both, hedonic and eudaimonic well-being. There is international evidence supporting lower happiness and life satisfaction in people living through long periods of unemployment or experiencing less SWB as a result of losing a sense of identity as a worker (Diener et al. 1999; Gilbert, 2006; Helliwell et al. 2012; Oswald and Powdthavee, 2008).

Finally, a fourth hypothesis expects to find no significant effects of time on eudaimonic well-being. As previously discussed in the literature review (Chapter 2, section 2.3.3) the hedonic dimension tends to be considered as more sensitive to the effects of time than the eudaimonic. The main explanation is that emotions and personal evaluations involving hedonic well-being fluctuate more than those personal attributes usually associated with a better eudaimonic well-being such as self-esteem, positive social interactions, competence and autonomy (Chapter 2, section 2.3.1.2).

Other studies suggest that variations on eudaimonic well-being require long term periods because psychological well-being depends on relevant life transitions and how people are able to adapt to them. In this sense, life events such as getting married or divorced, becoming a parent and being

retired, among others, are more relevant to explain variations in eudaimonic well-being than time by alone (Chapter 2, section 2.3.3).

## 5.3 Results

### 5.3.1 Data overview

Using data from the World Social Values Survey from 1990 to 2014, four indicators measuring SWB were selected: life satisfaction, happiness, meaning and purpose of life, and freedom of choice and control. Table 5.1 shows total means and standard deviations for each SWB indicator by period of time.

**Table 5.1** Means Comparisons for life satisfaction, happiness, freedom of choice and control, and meaning and purpose of life by wave

YEAR		Life Satisfaction	Happiness	Freedom and Control	Meaning and Purpose
1990-1994	Mean	72.9	67.8	67.5	76.3
	Std. Deviation	24.6	27.7	26.6	29.7
	N	1,496	1,486	1,488	1,488
1995-1998	Mean	65.8	69.1	68.5	76.6
	Std. Deviation	23.9	23.3	23.3	27.7
	N	997	996	995	997
1999-2004	Mean	68.0	72.0	68.7	75.0
	Std. Deviation	24.1	24.8	23.5	29.9
	N	1,193	1,193	1,186	1,197
2005-2009	Mean	69.4	71.2	70.1	67.6
	Std. Deviation	22.7	24.3	24.3	31.0
	N	992	998	976	995
2010-2014	Mean	69.8	69.6	68.8	69.0
	Std. Deviation	20.3	21.5	22.1	26.6
	N	988	997	992	985
Total	Mean	69.5	69.8	68.6	73.3
	Std. Deviation	23.4	24.7	24.2	29.3
	N	5,666	5,670	5,637	5,662

Source: WVS, 1990-2014. Mean comparison test. Differences between years are all significant at 0.01 level except for meaning and purpose of life ( $F= 1.634, p>0.163$ ). SWB indicators were recoded following the method proposed by Kelley and Evans (2017, pp.7) for a more intuitive and comparable interpretation. Scores equal or closer to 0 mean lower life satisfaction, happiness feelings, freedom of choice and control, and meaning and purpose of life. See APPENDIX 5.1 for recoding details.

Total means suggest greater similarities between the four SWB indicators showing an average score close to 70 points out of a total of 100 for life satisfaction, happiness and freedom of choice and over 70 points for meaning and purpose of life. Although means comparisons by years are significant at 0.01 level for all the SWB indicators except for meaning and purpose of life, there is not a preliminary clear trend by time. Table 5.2

shows a set of regression analyses in order to clarify both, SWB differences by individual attributes as proposed in the third hypothesis (Section 5.1, H5.3) and a time effect expected by the fourth hypothesis (Section 5.1, H5.4). Accounting for the four SWB indicators as dependent variables, Table 5.2 illustrates four logit ordinal regression models including as covariates: being a man (MAN), younger (YOUNGER), older (OLDER), living in a partnership (PARTNER), having higher qualifications (HEDUCATION), performing a full-time (FTIME) or part-time job (PTIME), being self-employed (SELF), retired (RETIRED) or unemployed (UNEMPL), positioning in a specific subjective income quintile scale (QUINTILE1-QUINTILE5) and years (YEAR4-YEAR5).

**Table 5.2** Logit ordinal regression models testing the effect of covariates on SWB indicators as dependent variables

		Hedonic		Eudaimonic	
		Life satisfaction	Happiness	Freedom of choice and control	Meaning and purpose of life
YOUNGER	Age between 18-29 years old	0.101 <sup>ns</sup>	-0.465**	0.006 <sup>ns</sup>	0.028 <sup>ns</sup>
OLDER	Age over 60 years old	0.077 <sup>ns</sup>	-0.007 <sup>ns</sup>	0.169 <sup>ns</sup>	-0.030 <sup>ns</sup>
PARTNER	Living with a stable partner	0.343**	-0.541**	0.100 <sup>ns</sup>	-0.038 <sup>ns</sup>
MAN	Being a man	0.049 <sup>ns</sup>	-0.030 <sup>ns</sup>	0.074 <sup>ns</sup>	0.166**
HEDUCATION	Higher education and postgraduate studies as the maximum attainment	0.103 <sup>ns</sup>	-0.083 <sup>ns</sup>	-0.006 <sup>ns</sup>	-0.238 <sup>ns</sup>
FTIME	Full-time employed	-0.068 <sup>ns</sup>	0.149 <sup>ns</sup>	0.042 <sup>ns</sup>	-0.076 <sup>ns</sup>
PTIME	Part-time employed	-0.005 <sup>ns</sup>	-0.010 <sup>ns</sup>	-0.011 <sup>ns</sup>	0.031 <sup>ns</sup>
SELF	Self-employed	0.042 <sup>ns</sup>	0.106 <sup>ns</sup>	0.132 <sup>ns</sup>	0.052 <sup>ns</sup>
UNEMPL	Being currently unemployed	-0.475**	0.795**	0.137 <sup>ns</sup>	-0.148 <sup>ns</sup>
RETIRED	Being a retired person	-0.238 <sup>ns</sup>	0.358**	-0.069 <sup>ns</sup>	0.107 <sup>ns</sup>
PARENT	Do you have children?	-0.268**	0.190**	-0.214**	0.170 <sup>ns</sup>
QUINTILE1	Positioning in the lowest or second step in a subjective income scale	-0.621**	0.586**	-0.502**	0.196**
QUINTILE2	Positioning in the third or fourth step in a subjective income scale	-0.320**	0.332**	-0.315**	0.067 <sup>ns</sup>
QUINTILE4	Positioning in the seventh or eighth step in a subjective income scale	0.219**	-0.229**	0.216**	-0.115 <sup>ns</sup>
QUINTILE5	Positioning in the ninth or tenth step in a subjective income scale	0.734**	-0.346**	0.394**	-0.253 <sup>ns</sup>
YEAR4	Period from 1999 to 2004	0.358**	-0.353**	0.113 <sup>ns</sup>	-0.012 <sup>ns</sup>
YEAR5	Period from 2005 to 2009	0.508**	-0.338**	0.239**	0.503**
YEAR6	Period from 2010 to 2014	0.405**	-0.041 <sup>ns</sup>	0.054 <sup>ns</sup>	0.535**
Chi Square		253.246 (d.f 18) (p<0.000)	254.276 (d.f 18) (p<0.000)	117.131 (d.f 18) (p<0.000)	121.623 (d.f 18) (p<0.000)
N		3,864	3,876	3,850	3,871

World Values Survey 1990-2014. Logit ordinal regression models. Standardised coefficients shown, significant at \*\*p<0.05. Confidence intervals are all significant at 0.05 level. YEAR2 is excluded in the model because no educational data are available for the

period 1990-1993. All thresholds for are significant at 0.05 level for life satisfaction scaling from 1=dissatisfied to 10=satisfied, Happiness from 1=very happy to 4= not at all happy, Freedom of choice and control from 1=none at all to 10=a great deal and meaning and purpose of life from 1=often to 4=never.

Data suggest that occupational variables related to having a full-time (FTIME) or part-time job (PTIME), being self-employer (SELF) and having higher qualifications (HEDUCATION) are not significant SWB predictors across the four indicators. Another interesting preliminary finding is that the same covariates have an inverse effect between life satisfaction and happiness. For example, living in partnerships (PARTNER), and belonging to the fourth (QUINTILE4) and fifth (QUINTILE5) income quintiles are positive predictors of life satisfaction, but negative on happiness. By contrast, being unemployed (UNEMPL), parent (PARENT) and being part of the first (QUINTILE1) and second income quintile (QUINTILE2) show positive effects on happiness, but negative ones on life satisfaction.

The models also show a lower number of significant covariances on those indicators related to the eudaimonic rather than the hedonic dimension, suggesting that the latter should be mostly affected by individual characteristics. As Table 5.2 details, freedom of choice and control is positively affected by being part of the two highest income quintiles, but negatively by being a parent and being part of the lowest two income quintiles. Even less significant effects are observed on meaning and purpose of life revealing that being a man (MAN) and belonging to the lowest income quintile are positive predictors. This evidence supports the thesis that predictors on meaning and purpose of life considerably differ from those explaining other SWB indicators.

At the moment, these results partially confirm the third hypothesis (Section 5.1, H5.3). As was expected, life satisfaction as a hedonic indicator is positively predicted by living in partnerships and having higher incomes, but not for being younger and having higher educational attainment. Regarding happiness, data preliminary refutes the positive effects expected by being younger, living in a partnership and having higher educational attainment. Otherwise, being younger, living with a stable partner and

belonging to the highest two income quintiles are negative predictors on happiness, instead of the positive effects expected. Covariates on freedom and meaning and purpose are even less conclusive, refuting most of the estimated outcomes.

Regarding the effects of time, the findings are also unclear. Life satisfaction is positively affected over time as was proposed by the fourth hypothesis, but not happiness (Section 5.1, H5.4), whereas eudaimonic indicators evidence both, no effects or negative ones on each period. A clearer time effect on hedonic and eudaimonic measured as latent constructs is examined in the next section.

### 5.3.2 Multidimensional model

Accounting for data available in the WVS for the Chilean case, four indicators were used to estimate SWB as a multidimensional concept. Before some models evaluating the existence of hedonic and eudaimonic as distinctive SWB dimensions, the Spearman correlations between those four indicators is examined. Table 5.3 shows positive significant correlations between the four observed variables. The strongest association occurs between life satisfaction and freedom of choice and control ( $r= 0.392$ ,  $p<0.000$ ), but is nearly followed by the correlation between life satisfaction and happiness ( $r= 0.375$ ,  $p<0.000$ ). Although significant, lower associations were found between meaning and purpose of life and happiness ( $r= 0.068$ ,  $p<0.000$ ), and freedom of choice and control and life satisfaction ( $r= 0.054$ ,  $p<0.000$ ).

**Table 5.3** Spearman correlations between life satisfaction, happiness, freedom and choice and meaning and purpose.

	Life satisfaction	Happiness	Freedom of choice and control	Meaning and purpose of life
Life satisfaction		0.375**	0.392**	0.054**
N		5,636	5,610	5,632
Happiness	0.375**		0.195**	0.068**
N	5,636		5,607	5,632
Freedom of choice and control	0.392**	0.195**		0.075**
N	5,610	5,607		5,600
Meaning and purpose of life	0.054**	0.068**	0.075**	
N	5,632	5,632	5,600	

World Values Survey, 1990-2014. All Significant level at \*\* $p<0.01$

Data mentioned suggest that observed indicators are only moderately correlated; therefore, searching for an alternative data fit through multivariate analyses might be useful to improve our understanding of Chileans' SWB. Table 5.4 details the range of indicators used as both, factors indicators on a latent variable or covariates affecting a specific construct.

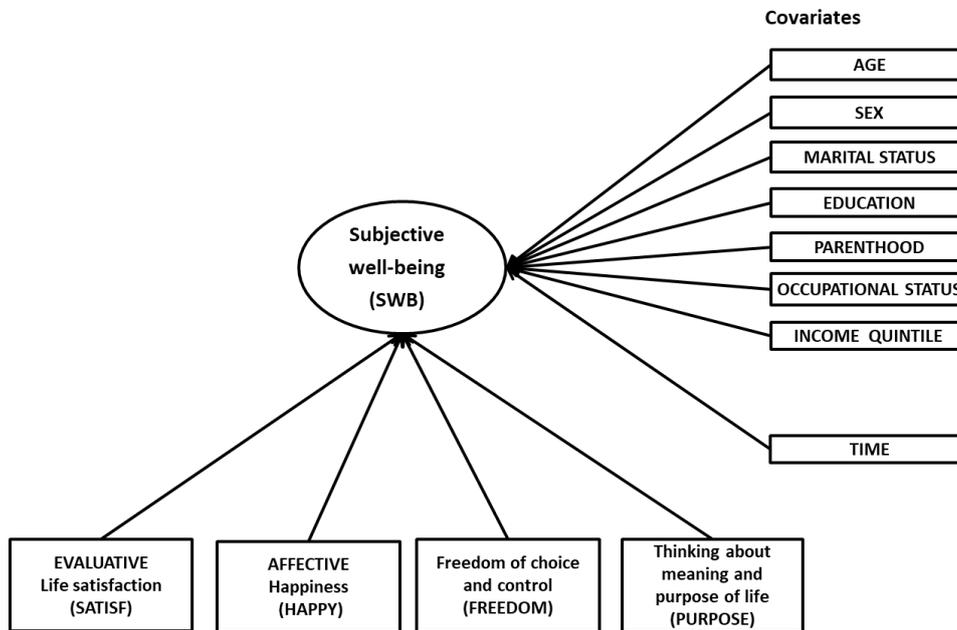
**Table 5.4** Factor indicators and covariates testing SWB as a latent construct

	<b>Name</b>	<b>Label</b>	<b>Measure Scale*</b>
<b>Factor indicators</b>	SATISF	Satisfaction with your life	Ordinal 1 dissatisfied 2 Not dissatisfied at all 3 satisfied
	HAPPY	Feeling of happiness	Dummy
	FREEDOM	How much freedom of choice and control of your life you have	Dummy
	PURPOSE	Thinking about meaning and purpose of life	Dummy
<b>Covariates</b>	YOUNGER	Age between 18 - 29 years old	Dummy
	OLDER	Age over 60 years old	Dummy
	PARTNER	Living with a stable partner	Dummy
	MAN	Being a man	Dummy
	HEDUCATION	Higher education and postgraduate studies as the maximum attainment	Dummy
	FTIME	Full-time employed	Dummy
	PTIME	Part-time employed	Dummy
	SELF	Self-employed	Dummy
	RETIRED	Being a retired person	Dummy
	UNEMPL	Being currently unemployed	Dummy
	PARENT	Do you have children?	Dummy
	QUINTILE1	Positioning in the lowest or second step in a subjective income scale	Dummy
	QUINTILE2	Positioning in the third or fourth step in a subjective income scale	Dummy
	QUINTILE4	Positioning in the seventh or eighth step in a subjective income scale	Dummy
	QUINTILE5	Positioning in the ninth or tenth step in a subjective income scale	Dummy
	YEAR4	Period from 1999 to 2004	Dummy
	YEAR5	Period from 2005 to 2009	Dummy
	YEAR6	Period from 2010 to 2014	Dummy

Prepared by the author based on the World Values Survey for Chile from 1995 to 2014. \*Scale measures of variables were recoded from their original version searching for a better data fit. See APPENDIX 3.1 for recoding details.

Accounting for the variables mentioned above, a first CFA model examines whether the four SWB indicators are able to explain SWB as a multidimensional concept controlling by the covariates mentioned in the table above. The aim is to compare the findings through this model with those assessing the existence of hedonic and eudaimonic as two differentiated SWB dimensions, confirming or refuting the first hypothesis (Section 5.1, H5.1)

Figure 5.1 shows a first CFA MIMIC model testing SWB as a latent variable (depicted as an oval) explained by four factor indicators and a set of demographic, socioeconomic and time effects covariates (both represented by rectangles).



**Figure 5.1** CFA MIMIC MODEL with covariates testing SWB as latent variable.

Table 5.5 shows the main findings and fit statistics examining the above model. Standardised loadings and standard errors by factor indicator and covariates are given. Evaluating the best good fit of the data, the comparative fit index (CFI), the Tucker-Lewis Index (TLI) and the Root Mean Square Error of Approximation (RMSEA) were examined together in order to determine how well data fit.

Overall results suggest positive and significant standardised coefficients for all the factor indicators loading on SWB as latent variables. SWB is mostly correlated with SATISF ( $\beta=0.788$ ,  $p<0.000$ ), HAPPY ( $\beta=0.684$ ,  $p<0.000$ ), FREEDOM ( $\beta=0.591$ ,  $p<0.000$ ), and to a lesser extent by PURPOSE ( $\beta=0.154$ ,  $p<0.000$ ). Regarding the impact of covariates on SWB as latent variable, findings report positive and significant effects of belonging to the best income group, QUINTILE5 ( $\beta=0.609$ ,  $p<0.000$ ) and the fourth one, QUINTILE4 ( $\beta=0.255$ ,  $p<0.000$ ). Living with a stable partner at home also

has a positive significant impact, PARTNER ( $\beta=0.278$ ,  $p<0.000$ ), as well as having higher education studies, HEDUCATION ( $\beta=0.163$ ,  $p<0.006$ ) and being younger, YOUNGER ( $\beta=0.111$ ,  $p<0.045$ ). By contrast, negative and significant effects on SWB were found by being in the lowest income group, QUINTILE1 ( $\beta=-0.566$ ,  $p<0.000$ ), being unemployed, UNEMPL ( $\beta=-0.336$ ,  $p<0.000$ ), being part of the second quintile, QUINTILE2 ( $\beta=-0.273$ ,  $p<0.000$ ), being retired, RETIRED ( $\beta=-0.229$ ,  $p<0.017$ ) and a being parent, PARENT ( $\beta=-0.191$ ,  $p<0.002$ ) respectively.

Controlling for time, significant and positive effects of time on SWB were found for the three periods covered. The period from 1999 to 2004, YEAR4 ( $\beta=0.188$ ,  $p<0.001$ ), from 2005 to 2009, YEAR5 ( $\beta=0.276$ ,  $p<0.000$ ) and from 2010 to 2014, YEAR6 ( $\beta=0.258$ ,  $p<0.000$ ). Conversely, being older, and having a full-time, part-time or self-employed occupation are not significant predictors on SWB.

**Table 5.5** MIMIC model testing SWB as latent variables with covariates

	<b>Coefficient</b>	<b>95% CI</b>
<b>SWB Factor Indicators</b>		
SATISF	0.788** (0.023)	0.742 - 0.834
HAPPY	0.684** (0.026)	0.633 - 0.736
FREEDOM	0.591** (0.024)	0.543 - 0.639
PURPOSE	0.154** (0.031)	0.094 - 0.214
<b>Covariates</b>		
YOUNGER	0.111** (0.055)	0.002 - 0.219
OLDER	0.083 <sup>ns</sup> (0.070)	-0.005 - 0.221
PARTNER	0.278** (0.049)	0.182 - 0.375
MAN	0.053 <sup>ns</sup> (0.047)	-0.038 - 0.145
HEDUCATION	0.163** (0.060)	0.046 - 0.296
FTIME	0.006 <sup>ns</sup> (0.056)	-0.103 - 0.116
PTIME	-0.031 <sup>ns</sup> (0.089)	-0.206 - 0.144
SELF	0.015 <sup>ns</sup> (0.077)	-0.136 - 0.167
RETIRED	-0.229** (0.096)	-0.416 - -0.041
UNEMPL	-0.336** (0.092)	-0.517 - -0.156
PARENT	-0.191** (0.062)	-0.313 - -0.069
QUINTILE1	-0.566** (0.057)	-0.678 - -0.454
QUINTILE2	-0.273** (0.056)	-0.382 - -0.164
QUINTILE4	0.255** (0.069)	0.119 - 0.390
QUINTILE5	0.609** (0.105)	0.404 - 0.815
YEAR4	0.188** (0.055)	0.079 - 0.296
YEAR5	0.276** (0.060)	0.159 - 0.394
YEAR6	0.258** (0.062)	0.137 - 0.379
<b>R<sup>2</sup></b>	0.171** (0.016)	

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**Fit Measures**

Chi square	137.042 (56 d.f)
p-value	p<0.0000
RMSEA	0.019
CFI	0.938
TLI	0.914
N	3,891

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World Values Survey, 1990-2014. STDY coefficients are shown<sup>15</sup>. Significant level at \*\*p<0.05; \*p<0.10, ns=no significant. Standardised errors are shown in brackets. All coefficients show 95% confidence intervals. Estimator= ML<sup>16</sup>. YEAR2 is excluded in the model because no educational data are available for the period 1990-1993. See APPENDIX 5.2 for more details.

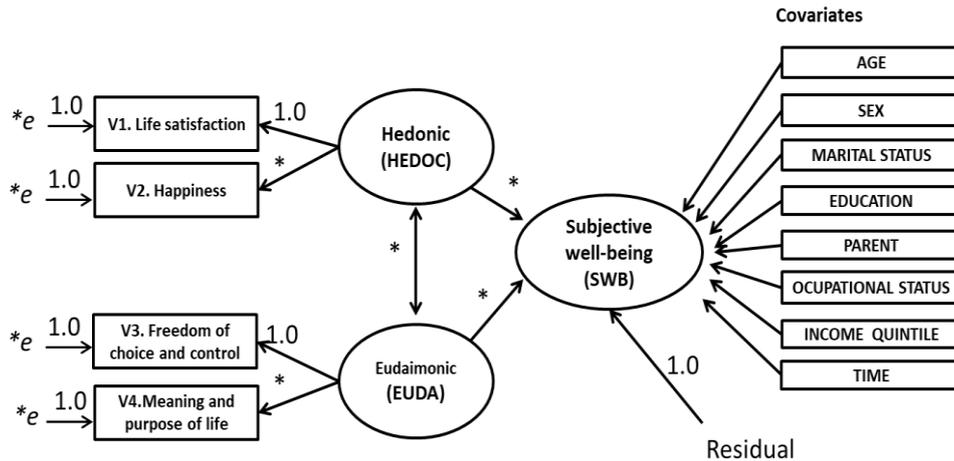
The MIMIC model presented above also shows good data fit; suggesting that Chileans' SWB is well explained by these four indicators without hedonic and eudaimonic distinctions. By contrast, a second CFA model examines the existence of hedonic and eudaimonic as two overlapped, but differentiated SWB dimensions, giving evidence to support or not the first hypothesis (Section 5.1, H5.1).

Figure 5.2 illustrates that second CFA model evaluating SWB as a latent variable composed of a hedonic dimension (life satisfaction and happiness) and a eudaimonic one (freedom of choice/control and meaning and purpose of life). The association allowed between both dimension accounts for their overlapping according to evidence mentioned in the literature review (Chapter 2, section 2.3.1). The same covariates as the MIMIC model are applied on hedonic and eudaimonic dimensions.

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<sup>15</sup>Standardised solution recommended for models with binary covariates (Kelloway, 2015; Mplus User's Guide (2017, pp.800) <https://www.statmodel.com/ugexcerpts.shtml>

<sup>16</sup>Maximum likelihood parameter estimates with conventional standard errors and chi-square test statistic.



**Figure 5.2** Second-Order Factor Model testing the impact of hedonic and eudaimonic dimensions on SWB and controlling for covariates.

Table 5.6 shows the main results obtained for the second-order model. The fourth hypotheses previously mentioned (Section 5.1) are examined through this model. Standardised loadings and standard errors by factor indicator and covariates are given. Fit measures including chi-square, p-value, RMSEA, CFI and TLI are reported in table 5.7.

The findings support our first hypothesis expecting hedonic (HEDOC) and eudaimonic (EUDA) as distinctive SWB dimensions. Life satisfaction, SATISF, ( $\beta=0.793$ ,  $p<0.000$ ) and happiness, HAPPY ( $\beta=0.686$ ,  $p<0.000$ ) significantly explains the first dimension whereas freedom of choice and control, FREEDOM ( $\beta=0.731$ ,  $p<0.000$ ), and meaning and purpose of life, PURPOSE ( $\beta=0.186$ ,  $p<0.000$ ) positively explain the eudaimonic dimension. Moreover, a high correlation between both dimensions is also consistent with previous empirical studies showing similar results ( $\beta=0.783$ ,  $p<0.000$ ) (Chapter 2, section 2.3.1).

Data also confirm the second hypothesis (Section 5.1, H5.2) expecting a higher impact of EUDA than HEDOC on SWB ( $\beta=0.637$ , and  $\beta=0.494$ , respectively  $p<0.000$ ). Whereas the first MIMIC model shows lower correlations of FREEDOM and PURPOSE (measuring the eudaimonic dimension) compared with SATISF and HAPPY (measuring the hedonic dimension), the second model supports stronger and significant associations

for both components explaining SWB. This is a relevant result underpinning the pertinence of HEDOC and EUDA as separate dimensions, even though both models have similar and good data fit as is shown later (Table 5.7).

Regarding the third hypothesis, which examines variations by personal attributes, the results are mixed, partially confirming our preliminary predictions (Section 5.1, H5.3). Initially, we expected to find positive effects on HEDOC caused by being younger, educated, living in a partnership and having higher incomes and negative effects as a result of being older, retired, unemployed and on lower incomes.

Data confirm positive effects on HEDOC by belonging to the fifth income, QUINTILE5 ( $\beta=0.635$ ,  $p<0.000$ ) and the fourth one, QUINTILE4 ( $\beta=0.247$ ,  $p<0.001$ ), living with a stable partner, PARTNER ( $\beta=0.297$ ,  $p<0.000$ ), having higher education studies, HEDUCATION ( $\beta=0.165$ ,  $p<0.009$ ) and being younger, YOUNGER ( $\beta=0.161$ ,  $p<0.006$ ). Moreover, it is also confirmed that HEDOC is negatively predicted by belonging to the lowest income group, QUINTILE1 ( $\beta=-0.501$ ,  $p<0.000$ ) and the second one, QUINTILE2 ( $\beta=-0.234$ ,  $p<0.000$ ), being unemployed, UNEMPL ( $\beta=-0.445$ ,  $p<0.000$ ) and being retired, RETIRED ( $\beta=-0.253$ ,  $p<0.009$ ). Nevertheless, being an older person showed a no significant effect on HEDOC.

Regarding the expected effects on EUDA, it was hypothesised that positive effects would be produced by being older, educated and having higher incomes, whereas negative effects were expected to be caused by being unemployed, retired and having lower incomes (Section 5.1, H5.3). Data confirm positive effects on EUDA by being part of the fifth income quintile, QUINTILE5 ( $\beta=0.424$ ,  $p<0.006$ ) the fourth, QUINTILE4 ( $\beta=0.219$ ,  $p<0.020$ ) and being older ( $\beta=0.197$ ,  $p<0.046$ ). On the contrary, no significant effect on EUDA is observed by having higher qualifications, showing that only HEDOC is positively affected by that predictor.

Regarding the negative predictors hypothesised on EUDA, belonging to the first and second income quintile are the only predictions confirmed ( $\beta=-0.617$  and  $\beta=-0.316$ ,  $p<0.000$ ). Contrary to expected outcomes, being unemployed or retired are not significant predictors of EUDA.

Finally, the findings also partially confirm the fourth hypothesis expecting no significant effect of time on EUDA (Section 5.1, H5.4). Table 5.6 shows only a positive impact on the period from 1999 to 2004, YEAR4 ( $\beta=0.175$ ,  $p<0.002$ ), but no significant effects on the following two periods.

**Table 5.6** Second-Order model testing Hedonic and Eudaimonic as latent variables on SWB with covariates

	Observed	Coefficient	95% CI
<b>Hedonic (HEDOC)</b>	SATISF	0.793** (0.025)	0.744 - 0.842
	HAPPY	0.686** (0.027)	0.634 - 0.738
<b>Eudaimonic (EUDA)</b>	FREEDOM	0.731** (0.087)	0.561 - 0.901
	PURPOSE	0.186** (0.033)	0.122 - 0.251
<b>HEDOC with EUDA</b>		0.772** (0.183)	0.414 - 0.930
<b>SWB BY</b>	HEDOC	0.494** (0.036)	0.423 - 0.565
	EUDA	0.637** (0.127)	0.388 - 0.886
<b>Covariates on HEDOC</b>	YOUNGER	0.161** (0.059)	0.046 - 0.276
	OLDER	0.036 <sup>ns</sup> (0.071)	-0.103 - 0.174
	PARTNER	0.297** (0.051)	0.198 - 0.396
	MAN	0.054 <sup>ns</sup> (0.049)	-0.043 - 0.151
	HEDUCATION	0.165** (0.063)	0.042 - 0.288
	FTIME	-0.009 <sup>ns</sup> (0.059)	-0.125 - 0.106
	PTIME	-0.025 <sup>ns</sup> (0.097)	-0.208 - 0.158
	SELF	-0.018 <sup>ns</sup> (0.080)	-0.176 - 0.140
	RETIRED	-0.253** (0.097)	-0.443 - -0.064
	UNEMPL	-0.445** (0.098)	-0.636 - -0.253
	PARENT	-0.149** (0.066)	-0.277 - -0.021
	QUINTILE1	-0.501** (0.060)	-0.619 - -0.382
	QUINTILE2	-0.234** (0.059)	-0.349 - -0.119
	QUINTILE4	0.247** (0.072)	0.105 - 0.388
	QUINTILE5	0.635** (0.115)	0.409 - 0.861
	YEAR4	0.175** (0.058)	0.062 - 0.288
	YEAR5	0.314** (0.063)	0.190 - 0.438
	YEAR6	0.287** (0.065)	0.159 - 0.415
<b>Covariates on EUDA</b>	YOUNGER	-0.040 <sup>ns</sup> (0.076)	-0.189 - 0.109
	OLDER	0.197** (0.099)	-0.004 - 0.391
	PARTNER	0.167** (0.071)	0.028 - 0.305
	MAN	0.041 <sup>ns</sup> (0.063)	-0.083 - 0.165
	HEDUCATION	0.123 <sup>ns</sup> (0.080)	-0.034 - 0.280
	FTIME	0.043 <sup>ns</sup> (0.076)	-0.105 - 0.192
	PTIME	-0.038 <sup>ns</sup> (0.117)	-0.267 - 0.190
	SELF	0.097 <sup>ns</sup> (0.106)	-0.111 - 0.306
	RETIRED	-0.112 <sup>ns</sup> (0.131)	-0.370 - 0.145
	UNEMPL	0.068 <sup>ns</sup> (0.130)	-0.186 - 0.323
	PARENT	-0.266** (0.091)	-0.444 - -0.087
	QUINTILE1	-0.617** (0.104)	-0.821 - -0.412
	QUINTILE2	-0.316** (0.082)	-0.477 - -0.154
	QUINTILE4	0.219** (0.094)	0.034 - 0.403

	QUINTILE5	0.424** (0.155)	0.120 - 0.729
	YEAR4	0.184** (0.080)	0.027 - 0.340
	YEAR5	0.125 <sup>ns</sup> (0.084)	-0.040 - 0.289
	YEAR6	0.134 <sup>ns</sup> (0.085)	-0.032 - 0.300
<b>R<sup>2</sup> HEDOC</b>		0.417** (0.046)	
<b>R<sup>2</sup> EUDA</b>		0.562** (0.194)	
	Chi square	98.209 (37 d.f)	
	RMSEA	0.021	
<b>Fit Measures</b>	CFI	0.953	
	TLI	0.901	
	N	3,891	

World Values Survey, 1990-2014. STDY coefficients are shown. Significant level at \*\* $p < 0.05$ ; \* $p < 0.10$ ; ns=no significant. Standardised errors are shown in brackets. All coefficients show 95% confidence intervals. Estimator=ML. YEAR2 is excluded in the model because no educational data are available for the period 1990-1993. See APPENDIX 5.3 for more details.

Regarding overall fit measures both, MIMIC and second-order model have a good data fit. Table 5.7 summaries the CFI, TLI and RMSEA as the common measures used to determine how well data fit (Weston 2006; Kelloway, 2015). Values over 0.95 to CFI and TLI and RMSEA smaller than 0.05 represent an overall good fit, supporting a reliable model (Kline, 2005; Geiser, 2013; Kelloway, 2015). According to these parameters both models have a good RMSEA; nevertheless, the TLI index is slightly lower than the consensual parameter for both models. CFI shows a better fit than the TLI, showing a value over 0.95 in the second model.

**Table 5.7** Fit measures CFA models

	$X^2$	<i>p-value</i>	<i>df</i>	CFI	TLI	RMSEA
Model 1	137.042	0.000	56	0.938	0.914	0.019
Model 2	98.209	0.000	37	0.953	0.901	0.021

Model 1 based on MIMIC CFA analysis. Model 2 based on the second-order model.

Although those fit measures are very similar between both models, there are three reasons underpinning the selection of the second model accounting for HEDOC and EUDA as distinctive SWB dimensions. Firstly, whereas the MIMIC model explains around 17% of the variance on SWB (Table 5.5), the second-order model explains 41% of the variance on SWB by HEDOC and 56% by EUDA (Table 5.6). Secondly, SWB is better predicted by freedom of choice and control and meaning and purpose of life as part of the EUDA dimension rather than separate indicators on SWB.

Finally, the second model selection is supported by the effects of differentiated covariates observed on HEDOC and EUDA. For example, being older, OLDER ( $\beta=0.214$ ,  $p<0.000$ ) has a positive and significant effect on EUDA, instead of no significant effect of being a younger, YOUNGER ( $\beta=-0.046$ ,  $p<0.578$ ) and having higher educational attainments, HEDUCATION ( $\beta=0.142$ ,  $p<0.103$ ). Moreover, no significant covariates on EUDA contrasting with significant effects on HEDOC are observed by being unemployed, UNEMPL, ( $\beta=0.086$ ,  $p<0.393$ ) and being retired, RETIRED ( $\beta=-0.121$ ,  $p<0.393$ ).

Those significant dissimilarities on the impact of personal attributes on HEDOC and EUDA give relevant insights for policy purposes. For example, whereas the first model suggests that ageing over 60 years has a no significant impact on SWB (Table 5.5), the second model supports that being older is not significant on HEDOC, but it is a positive predictor on EUDA (Table 5.6). Other differences between both models are observed by having higher educational studies, being younger, unemployed and retired.

Additionally, interesting findings not examined through the hypotheses are consistent in both models. For example, living in a partnership is a positive predictor of SWB while being a parent impacts negatively. Moreover, being a full-time, part-time or self-employed worker showed no significant effects on both models as well as being a man.

To conclude, hedonic and eudaimonic are two correlated, but distinctive SWB dimensions, supporting the first hypothesis. Otherwise, eudaimonic has a stronger impact on SWB than hedonic well-being, confirming the second hypothesis. Regarding the third hypothesis, the findings support that both dimensions are positively affected by having a higher income and negatively by being in the lower two income quintiles. Otherwise, being educated, unemployed or retired only have a positive effect on HEDOC, but not on EUDA, whereas being younger positively impacts only on HEDOC and ageing over 60 years old on EUDA exclusively.

Finally, the impact of time on both dimensions was tested examining three periods of time: From 1999 to 2004 (YEAR4), from 2005 to 2009 (YEAR5) and from 2010 to 2014 (YEAR6). Data from the second-order model partially supports the fourth hypothesis because no significant effects on EUDA were expected for the first period. The findings suggest that EUDA instead of HEDOC is less affected by time. Potential explanations and implications of the results are discussed through the next section.

#### **5.4 Discussion**

The hypothesis supporting the existence of hedonic and eudaimonic as two distinctive SWB dimensions was confirmed through the second CFA model. On one hand, life satisfaction and happiness fit well as part of the hedonic dimension, measuring positive emotions and thinking on overall life. For another hand, freedom of choice and control, and meaning and purpose of life also explain eudaimonic dimension significantly, reinforcing the relevance of understanding SWB beyond pleasurable emotions and experiences (Table 5.6).

The findings are also highly consistent with empirical evidence at the international level. The existence of hedonic and eudaimonic as different factors explaining people's well-being has been empirically demonstrated by Waterman (1993) on a sample of American undergraduate and graduate students, by Keyes (2005) in adults who had experienced a mental disorder in the past year, and later on American adolescents (Keyes, 2006) and Black Setswana-speaking South Africans (Keyes et al. 2008) (Chapter 2, section 2.3.1).

At a cross-country level, Clark and Senik (2011) found higher scores in flourishing, vitality, resilience and functioning even when people declared low life satisfaction across 21 European countries covered by the European Social Survey (ESS). Similarly, Vanhoutte (2013) found that hedonic and eudaimonic well-being are two different factors using 6 indicators across 29

European countries collected by the ESS. Huppert and So (2013) applied an exploratory factor analysis across Europe and found that emotional stability, vitality, optimism, happiness and self-esteem tend to be aggregated in a hedonic factor, while engagement, meaning, competence and positive relationships are close second, aggregated to the eudaimonic component.

The results here also suggest that hedonic and eudaimonic are different, but overlapped dimensions, in line with other studies. For example, Waterman (1993) found significant Pearson correlations between hedonic and eudaimonic dimensions on two samples ( $r=0.74$  and  $r= 0.82$  respectively). Vanhoutte (2013) also reported a high correlation between both dimensions ( $r=0.65$ ) indicating that good scores on the hedonic dimension mean higher scores on the eudaimonic as well.

Through our results, a greater effect of eudaimonic than hedonic dimensions on SWB was also observed, confirming the second hypothesis proposed (Table 5.6). That means that Chileans' SWB is mostly explained by functioning well rather than by feeling good. This result has important repercussions for national social policy especially because almost all we know about SWB in Chile is based on a hedonic point of view.

As was concluded, people can feel satisfied and even happy, but with lower functioning levels. Indeed, data in chapter table 5.1 show higher levels on both, life satisfaction and happiness declared by the Chilean population (Section 5.3.1). Additionally, the UNDP Chilean report (2012) examined higher levels of life satisfaction even controlling by age, sex, income and marital status. Data from the CASEN survey (2013) also concluded that less than just 10% of the population declared scores under 5 points on a scale from 1 meaning dissatisfied and 10 meaning very satisfied with their overall life.

A literature review focused on SWB studies in Chile shows a strong emphasis using life satisfaction and happiness as the main indicators

(Section 2.5). By contrast, only two empirical research studies are focused on an eudaimonic perspective, Ibañez (2013) who analysed flourishing in Chile based on Seligman's works and his multidimensional theory of well-being composed by five components: Positive emotion; engagement; relationships; meaning and accomplishments (PERMA) and Steger and Samman's study (2012) assessing the psychometric properties of the well-being module contained in the Oxford Poverty and Human Development Initiative (OPHI) based on a sample of Chilean households.

Accounting for the relevance of the eudaimonic dimension (measured by freedom of choice and control, and meaning and purpose of life) explaining Chileans' SWB, further research is required to understand what kind of functionings are mostly affecting Chileans' lives, how they interact and how they vary within subgroups. Some of these questions are examined through the chapter 7 using the subjective capability approach as the main theoretical background on a national dataset (Chapter 7, section 7.2).

The findings argue that feeling satisfied with overall life and being happy are not enough to understand Chileans' SWB, because higher hedonic enjoyment increases the likelihood of having a better life, but it is not a guarantee (Waterman, 1993; Keyes, 2005; Keyes and Annas, 2009; Huppert and So, 2013). Given this pioneer result for the Chilean case, it seems necessary to attend to the matter of how national policy can facilitate or restrict the identification and pursuit of functionings to achieve a better overall well-being.

Regarding some of the differences on SWB by personal attributes, the findings partially support the third hypothesis. As was expected, hedonic well-being is positively predicted by being younger, educated and having higher incomes and negatively impacted by having lower incomes, being retired or unemployed. In the case of eudaimonic, the results confirm the predicted positive effects by being older and having higher incomes as well as having lower incomes as a negative predictor on the eudaimonic

component. Conversely with our hypothesised associations, being educated only impacts on hedonic, but not on eudaimonic well-being. Moreover, being full-time, part-time or self-employed showed no effect on both components, whereas living in a partnership and being a parent are significant consistent predictors on both SWB dimensions. A discussion of these results according to each key predictor follows.

### *Age*

The results through the second-order CFA model report that the hedonic dimension is positively affected by being aged between 18 and 29 years old, whereas eudaimonic is positively influenced by being over 60 years. Partial support for these findings was found in the literature review. Several studies refer to the U-shaped distribution observed as higher levels of life satisfaction and happiness in people under 20 years old, reaching a minimum around mid-40s and then rising back up again at over 60 years old (Helliwell, 2003; Blanchflower and Oswald, 2007; Blanchflower and Oswald, 2008).

Youth is a consistent predictor of happiness because people report feeling motivated, optimistic about their future, healthy and have plenty of personal goals. Instead, lower happiness and life satisfaction in middle age has usually been explained by a realistic adaptation suppressing those unreachable aspirations of youth and having greater responsibilities as workers, partners, parents, etc. (Helliwell, 2003; Blanchflower and Oswald, 2007; Blanchflower, 2008). Otherwise, positive life satisfaction and happiness in old age are attributed to a greater life expectancy and quality of life compared to previous generations (Bass, 1995, cited by Diener et al. 1999, pp.291) and a higher ability to adjust their personal goals according to their age (Blanchflower and Oswald, 2007; Blanchflower and Oswald, 2008).

Exceptions to the U-shaped distribution are lower life satisfaction scores reported by older people living in poorer countries because their basic needs are unsatisfied (Deaton, 2008); nevertheless, Chilean evidence tends to be

consistent with that distribution. The most complete SWB study in Chile developed by the UNDP found higher scores for the youngest and the oldest people and the lowest in the middle age (UNDP, 2012). Similarly, higher levels of happiness before the twenties and after fifties were found in the Chilean population (Vera-Villaroel, et al. 2012).

Contrary to those results, no significant effect of being older was found on the hedonic component through this chapter. Ageing over 60 years old also showed no significant impact on each separated logit ordinal regression model examined for life satisfaction, happiness, freedom of choice and control, and meaning and purpose of life (Table 5.2). Similarly, no significant effect of later life was reported, analysing the four indicators as observed variables explaining SWB as a latent construct through a MIMIC model (Table 5.5). Finally, the second-order model indicates a positive significant effect of being younger on the hedonic metric, but not being older (Table 5.6). Further research is needed to clarify what later life aspects are restricting hedonic enjoyment. Lower incomes and pensions, reduced social networks, living as widowed and health natural damage might be possible explanations.

Conversely, a positive significant effect of being older was found on the eudaimonic, instead of the hedonic component. Whereas being youthful positively impacts on a greater life satisfaction and happiness, old age positively influences freedom of choice and control, and meaning and purpose of life. This result might be consistent with the idea that the eudaimonic component refers to a long-term process over people's lives rather than an emotional state. Self-evaluation on life's meaning and sense of life used to be valued in mature life stages (Delle-Fave et al. 2011, Helliwell et al. 2012). Similarly, Clark and Senik (2011) found that even in people with low life satisfaction, increases in age are positively correlated with flourishing, vitality, resilience and functioning.

The findings obtained here suggest that the U-shaped distribution occurs in the Chilean case, but on distinctive SWB components. Being an older person has no significant effect on life satisfaction and happiness, the

common hedonic indicators associated with age as control variable. Conversely, being older appears as a positive significant personal attribute on the eudaimonic dimension, showing the relevance of these two SWB dimensions instead of studies exclusively focused on the hedonic perspective.

### *Sex*

The inclusion of sex as a control variable showed a no significant effect on both, hedonic and eudaimonic dimensions. This finding is consistent with some studies in which sex has shown no effects on happiness and life satisfaction controlling for other demographic variables (Inglehart, 1990; Shmotkin, 1990; White, 1992). In contrast, further studies have found that women should be less happy than men due to a higher prevalence of depression (Eaton and Klesser, 1981) and the presence of more extreme and intensive emotions producing higher SWB fluctuations (Wood et al. 1989).

Chilean evidence is also inconclusive about the association between sex and SWB. Similarly, Vera-Villaroel et al. 2012 also reported no significant difference between men and women's happiness score, while the UNDP Chilean report developed in the same year, concluded that women are more satisfied with their lives than men.

Although a negative significant effect of being a man on meaning and purpose of life was observed in the logit regression model (Table 5.2), that effect disappears in the later CFAs models. Both, the MIMIC and the second-order model supported that sex has no significant effect on SWB, even testing different data's structures.

### *Income*

The association between income and SWB has been widely investigated, income being the main indicator as proxy of people's socioeconomic status (Bookwalter and Dalenberg, 2004; Dolan, et al. 2008). Accounting for the socioeconomic classification available through the WVS database, effects on hedonic and eudaimonic dimensions by feeling part of a specific income quintile was investigated. Our results suggest that there is a positive effect

of belonging to the fifth and fourth income quintile on hedonic and eudaimonic dimensions, whereas being part of the two lowest income groups negatively impacts on both dimensions (Table 5.6). Similar results were obtained by the MIMIC model testing SWB as a latent variable explained by the four SWB indicators together (Table 5.5).

The results here are in line with the current national evidence and some trends at the international level for those in developing. For example, Vera and Villaroel et al. 2012 found a higher association between income and happiness scores in Chilean adults. Similarly, the UNDP (2012) aiming to analyse SWB in Chile also reported a positive effect of income on life satisfaction, instead of happiness. At the international level, countries living in poverty show lower life satisfaction than developed societies (Dolan et al. 2008; Howell and Howell, 2008; Diener and Ryan, 2009). Cross-country studies indicate that a linear income-subjective well-being relationship occurs at early stages of the development of societies; however, in developed countries after a certain GDP level, SWB is very weakly correlated with further income increases (Inglehart, 2000).

The main explanation is that income is a critical means to satisfy basic needs such as food, clothing and shelter; however, in prosperous nations in which people's basic needs are covered, other factors affect SWB beyond income. According to this evidence, Chile is in the expected line, showing a positive and strong income effect on SWB as a country labeled in developing by its GDP level (OECD, 2015, UNDP, 2014)

Otherwise, Diener and Ryan (2009) argue that income effects on SWB are stronger on life satisfaction, but lower on happiness. The latter one seems to be better predicted by aspects such as social support, feeling safe freedom of choice and self-development opportunities rather than income level. Nevertheless, through our results, income significantly impacts on life satisfaction and happiness separately as well as part of a latent construct, making it a critical predictor to understand Chilean people's hedonic and eudaimonic well-being.

### *Educational attainment*

The findings showed that having higher educational attainment is only a positive significant predictor on the hedonic dimension, instead of eudaimonic (Table 5.6). This evidence is particularly interesting because having higher educational attainments should be a critical means of achieving greater life satisfaction and happiness, but it is not for reaching psychological well-being.

Chilean evidence also supports the positive impact of more years of schooling on life satisfaction; although its effect decreases when occupation and earnings are added as control variables which is likely because there are correlated variables (UNDP, 2012). Higher incomes are also concentrated in more educated people, who have greater chances to achieve acceptable material conditions (Cartagena, 2014; MIDEPLAN, 2015). Qualitative studies also argue that Chileans declare “having a good education”, as the greatest route to achieve flourishing (Barozet and Fierro, 2011; Espinoza, 2012; Cartagena, 2014).

Positive impacts on hedonic indicators have been widely supported and studied (Graham and Pettinato, 2002; Blanchflower and Oswald, 2004; Fahey and Smyth, 2004 and Ferrer-i-Carbonell, 2005) however, little is known about the impact of education on eudaimonic well-being. Some studies suggest that educational attainments may be associated with unobserved abilities such as self-efficacy, self-esteem and coping strategies confronting adverse events (Blanchflower and Oswald, 2004; Delle-Fave et al. 2011). These individual attributes might help to achieve greater life satisfaction and happiness, but are also components of positive psychological well-being.

In the Chilean case, the results suggest that education is an effective means to feel satisfied and happier, but a greater psychological well-being depends on other predictors. Further research should illuminate on what are significant predictors to meaningful lives.

### *Occupational status*

Chilean occupational status was examined through five predictor variables: Having a full-time occupation, a part-time occupation, being self-employed, being unemployed and retired. The findings indicate that being retired or unemployed have a negative significant impact on hedonic, but not on eudaimonic well-being. Moreover, unexpected results suggest no effects of being full/part-time employed or self-employed on both SWB dimensions (Table 5.6).

Some evidence supports those negative effects found on the hedonic dimension. Being unemployed has shown a negative impact on life satisfaction, even for a time after re-employment (Clark and Oswald 1994; Plagnol, 2010). Other studies argue that unemployed individuals have around 5-15% lower life satisfaction scores than employed people (Di Tella et al. 2003; Frey and Stutzer, 2002; Helliwell, 2003). Similarly, evidence focused on Chile found a negative impact on life satisfaction in unemployed people, with no significant impact on people working as a full-time and paid worker (UNDP, 2012).

A negative impact of being unemployed on the hedonic dimension might be also understood by the importance of earnings as the main income source in the Chilean family budget (MIDEPLAN, 2015). Therefore, it is expected that lack of a job negatively impacts on people's well-being. Indeed, some qualitative studies also highlight earnings as the exclusive income source, savings and investments are only reported for people in the highest income quintile (Espinoza and Núñez, 2014, Espinoza, 2012, Barozet and Fierro, 2011). Furthermore, data from the CASEN PANEL from 2007 to 2009 suggest that losing a job is the main reason explaining people's stressed financial situation and therefore, lower life satisfaction and happiness.

Otherwise, some findings suggest that being unemployed reduces SWB because other life domains are affected beyond loss of income such as loss

of social status, self-esteem and workplace social relationships (Helliwell et al. 2012). The workplace offers shared experiences, contact with people outside the family and pursuit of goals that disappear when unemployed.

Little is known about the impact of being retired on SWB, no large overall effects on SWB have been detected because this condition widely varies between individuals. Clark and Falaz (2009, Cited by Helliwell et al. 2012, pp.68) using the European Survey of Health, Ageing and Retirement found that more educated workers experience greater well-being on retiring, while lower skilled workers report a drop in their life satisfaction when they retire.

Although there is no empirical evidence in Chile, a negative impact is expected due to some national statistics. For example, an increase on the legal retirement established in Chile (60 years for women and 65 for men) is associated with lower pensions and economic protection in later life (ENE, 2017). Lower incomes than earnings obtained as a worker in the past might explain a negative effect on life satisfaction. Otherwise, some studies suggest that happiness decreases when individuals confront adverse circumstances or a new life cycle over their lives (Diener et al 1999; Gilbert 2006; Oswald and Powdthavee, 2008; Powdthavee, 2009; Diener and Ryan, 2009). This later point might illuminate why confronting the lack of job or getting back a worker's identity negatively impact on the hedonic dimension.

Interestingly, no significant effects of being unemployed or retired were found on eudaimonic well-being even though similar results were expected. That could mean that feelings of freedom, control and meaning and purpose of life are better predicted by other life domains beyond work. For example, Ibañez (2013) found that having close and meaningful relationships is the most important factor explaining well-being in Chile, followed by accomplishment (getting results or achievements) and positive emotions (feelings and life satisfaction). The relevance of feeling positively engaged with the work was placed fourth out of a total of five dimensions examined.

Additionally, no effects of occupational status were found on hedonic as well as eudaimonic well-being. According to national evidence, it was expected that having a full-time job would have positive effects on both dimensions, instead of negative ones for being a part-time employed or self-employed. National labour statistics have reported that full-time employees earn twice as much as self-employed workers (ENE, 2017). In addition, the negative effects of having casual work on life satisfaction and happiness have been examined as well as the positive effects of being self-employed, but only in developed countries (Dolan et al. 2008).

Conversely, both dimensions are not significantly predicted by these occupational categories. On one hand, it could be that “being employed”, no matter the job, is mainly a means of subsistence, but is not necessarily a way through which people feel pleasure, personal growth and self-realisation. In this regard, occupational variables might be affecting income and then SWB in the case of the hedonic dimension and not significantly affecting the eudaimonic component (Ibañez, 2013).

On the other hand, it might be possible that hedonic and eudaimonic are affected by variables related to quality of life at work. According to Clark (2010) life satisfaction is strongly correlated with salary, but also with job security, flexible hours and promotion opportunities. Otherwise, the eudaimonic dimension seems to be mostly associated with intrinsic motivation at work rather than occupational status. For example, Deci and Ryan (1985, cited by Helliwell et al. 2012, pp. 67) observed greater flourishing in people who experience a “sense of purpose in their job”, “autonomy”, “competence” and “recognition”. Further research is needed to clarify the impact of occupation on both dimensions, including a wider range of SWB indicators and controlling for several economic sectors and labour conditions.

### *Family life*

Through this chapter, the effects of living in partnership and having children were evaluated as family life events on hedonic and eudaimonic well-being. The results show a positive significant effect of being in a stable relationship on hedonic and eudaimonic dimensions and a negative effect of being parent on both dimensions.

In the first case, several studies support the positive effect of having a partner on the hedonic dimension. Married people or individuals living with a stable partner are happier than singles, divorced, being separated or widowed because being in a couple provides help, companionship and greater self-esteem (Diener, et al. 1999; Frey and Stutzer, 2002; Blanchflower and Oswald, 2004; Easterlin, 2006; Helliwell et al. 2012). Additional evidence argues that married people are more satisfied with their life because they completed their own marriage aspirations and normative expectations according to their age (Easterlin 2005).

Similarly, evidence based on Chile also reveals a higher impact of being in a couple on life satisfaction than being single, being widowed or separated (UNDP, 2012). By contrast, family dissolution events such as being separated, divorced or widowed have been associated with lower happiness and life satisfaction; although some studies suggest that SWB is even better after 2 or more years of these situations (Lucas, 2005; Gardner and Oswald, 2006; Clark, et al. 2008)

Less clear is the positive effect of being in a relationship on the eudaimonic component. Nevertheless, a few studies support our results because of the significant importance of the interpersonal relations on people's well-being. For example, Delle-Fave et al. 2011 found that the relational aspect is not only relevant to explaining happiness variance, but also to the meaning of life across six countries. They suggest that interpersonal bonds, intimate relationships and interactions with family and friends are crucial to understanding well-being beyond a hedonic perspective. In a similar line, Ibañez (2013) found that the most frequent element of well-being declared

by around 71% of Chileans in the Barometer Happiness Survey in 2012 was positive relationships (close relationships of support, affection, empathy and recognition). After the social component, the importance of having positive emotions (high life satisfaction and happiness) was related to well-being by around 53% of Chileans.

Being a parent seems to be a negative predictor of hedonic and eudaimonic well-being. Studies examining the association between parenthood and SWB are mixed and differ across measures and countries. For example, Haller and Hadler (2006) found that being parent has no significant effect on happiness controlling for income and financial satisfaction, suggesting that children are emotionally demanding; but they are considered an important part of people's expected life cycles over time.

Other studies suggest that people are able to adapt to facing parenthood; however, this result partially depends on parent marital status (Clark, et al. 2008; Clark and Georgellis, 2010). In other cases, only mothers show a positive effect on their well-being (Kohler, et al. 2005). By contrast, negative impacts on SWB have been found for single parents, divorced mothers; children over 3 years, poor families and sick children who need additional care (Dolan et al. 2008).

No evidence associating parenthood and SWB was found in the Chilean case and deeper analyses are needed. Further research should explore how hedonic and eudaimonic dimensions are affected by the number and ages of the children and the family structure among others.

### ***Time effect***

In examining the time as a predictor of SWB, it was expected that there would be no significant effects of time on eudaimonic through our fourth hypothesis. The findings partially confirm that prediction except for a positive effect on eudaimonic from 1999 to 2004.

It was expected that eudaimonic would remain more or less unalterable over time because it is affected by specific life events over people's life-course rather than contextual factors occurring in a specific time period (Waterman,

1993; Delle-Fave et al. 2011). That means that longer periods and life events information are necessary to capture eudaimonic variations over time. Indeed, our preliminary results suggest that time is less relevant in explaining eudaimonic well-being than the presence of specific life events over people's lives. For example, eudaimonic is significantly impacted by living in a partnership and being parent, two relevant aspects related to life events. Further research should explore the association between eudaimonic well-being and specific people's life events over time. In doing so, future data collection should prioritise the design of longitudinal surveys in order to follow SWB variations according to person's critical life events.

In contrast, hedonic well-being was shown to be positively impacted on by each one of the periods covered. That might suggest that beyond the time, life satisfaction and happiness remain positive. A main argument supporting this conclusion is given by adaptation theory (Kamman 1983; Lykken and Tellegen 1996; Easterlin 2003). This perspective suggests that a permanent higher hedonic enjoyment over time is explained by a greater human adaptation in confronting several circumstances. In this regard, people are able to maintain higher levels of life satisfaction and happiness even when experiencing adverse moments.

## **5.5 Conclusions and Limitations**

On one hand, the results show that hedonic and eudaimonic are two correlated, but distinctive SWB dimensions, supporting the first hypothesis. On the other hand, the second hypothesis is also confirmed because the eudaimonic, instead of the hedonic dimension has a stronger effect on Chileans' SWB controlling by a set of demographic and socioeconomic variables.

Examining SWB differences within population, the third hypothesis was partially supported. Higher incomes and living in a partnership are positive predictors on hedonic and eudaimonic dimensions, whereas having lower incomes and being a parent are negative ones. An interesting conclusion is that some personal characteristics have differentiated effects on both

dimensions. For example, being younger is a positive predictor on hedonic, but being older is a positive predictor on eudaimonic well-being. Being educated positively explains hedonic well-being, but not the eudaimonic component, as well as negative effects of being retired or unemployed on the hedonic dimension, although missing on the eudaimonic.

Those differentiated impacts give relevant information for policy purposes because, as we see, the individual characteristics produce mixed effects on SWB. Policy design should be focused on specific population groups depending on the SWB dimension to be developed (Section 5.6)

A fourth hypothesis suggesting no significant effects of time on eudaimonic well-being was also supported. While hedonic well-being is always positive and significantly influenced by time; eudaimonic showed no significant effects in two of the three waves examined. Similarly to international evidence, the eudaimonic dimension is mostly affected by life events over a person's life-course; therefore, extensive periods of time are necessary to measure this more precisely. In this regard, further research should be focused on how eudaimonic well-being varies according to specific life events over people's life-course rather than the effect of time itself.

Despite this chapter being a pioneer study adding a eudaimonic dimension to our Chileans' SWB, some limitations should be addressed in future research. Accumulated evidence at the international level shows a range of theoretical models testing both hedonic and eudaimonic dimensions broadly. A limitation of this study is the use of a restricted range of indicators testing both as distinctive SWB components.

Studies focused on the hedonic dimension suggest that a more precise picture can be taken involving both cognitive and affective indicators. The first case classically includes overall life satisfaction as the main indicator; nevertheless, specific indicators should be also examined. For example, some studies have found that overall life satisfaction often shows higher scores than life satisfaction based on life domains such as satisfaction with

their job, interpersonal relations, family life, health and socioeconomic status among others (Andrews and Crandall, 1976; Diener 1984; Fordyce, 1988; Diener et al. 1999; Helliwell and Barrington-Leigh, 2009; OECD, 2013).

In other cases, examining hedonic enjoyment based on different people life's moments has been also recommended. Life evaluations and emotional states might show higher variations over time (Hagedorn, 1996; Waldron, 2010; Diener, 2012; Dolan and Metcalfe, 2012; Krueger and Stone, 2014) or conversely, a greater adjustment and ability to cope with several life circumstances as the adaptation theory proposes (Kamman 1983; Lykken and Tellegen, 1996; Gilbert, 2006). Finally, hedonic indicators should include a framework through which individuals evaluate their own life, accounting for the impact of relatives and neighbours as a comparison point (Graham and Felton, 2006; Dynan and Ravina, 2007; Plagnol and Scott, 2008; Plagnol, 2010).

Similarly, eudaimonic analysis reveals a greater accumulated wisdom through several theoretical models and empirical applications. For example, positive psychology has proposed sets of basic needs and individual psychological attributes as key to achieve self-development over people's lives (Ryff, 1989; Johnston and Finney, 2010; Diener et al, 2010; Waterman et al. 2010). Another conceptualisation of what eudaimonic well-being entails has been proposed by Nussbaum and Sen (1996) who understand well-being as people's potential to choose their opportunities to flourish.

A common issue in eudaimonic conceptualisations is the greater range of indicators covered. A limitation of this dissertation's chapter is the use of only two indicators covering a complex theoretical construct (freedom of choice and control, and meaning and purpose of life). Even though both are in line with the current empirical applications and guidelines (see for example OECD, 2013; ESS, 2013), these are not enough to understand Chileans' people eudaimonic well-being deeply. An exhaustive review of

international experiences measuring well-being might be a useful input to guide improved future data collection on Chile, developed from Chile.

Particularly, the only national study focused on a eudaimonic, instead of a hedonic analysis revealed that Chileans' flourishing is mostly influenced by positive relationships (closer and significant relations with family and relatives) and accomplishment (getting results and achievements), followed by positive emotions (life satisfaction and happiness) and engagement (positive attachments to work) and meaning and purpose of life (sense of belonging to something greater than oneself) as the less relevant indicator (Ibañez, 2013).

Similarly, the covariates examined as predictors of hedonic and eudaimonic dimensions are restricted to a few indicators. The WVS database does not contain information on the existence of any disability or detailed information on incomes and labour conditions. Moreover, small samples from each period are not representative enough to undertake differentiated analysis by territory (urban versus rural), regions and ethnic affiliation, which are key sources of well-being disparities for Chilean social policy. Some of these limitations are overcome in the chapter 7 based on a national dataset.

Finally, some methodological limitations were also associated with the limited number of waves available. The methods evaluating the existence of latent variables used to be very sensitive to that, increasing the requirements through even more complex models. Although the confirmatory factor analysis contributes to understanding Chileans' people's well-being as a latent construct, this method does not account for the hierarchical structure of the cross-sectional database used.

Unfortunately, due to the small number of waves which can be considered as clusters, a multilevel analysis could not be computed. In this regard, the design of cross-sectional and preferably longitudinal surveys systematically collected over time and covering a wider range of well-being indicators is

strongly recommended. Therefore, the lack of more precise knowledge on SWB variations over people's life-course might be reduced.

## **5.6 Social Policy Implications**

### **5.6.1 Gradually Improving the Collection of SWB Indicators**

The questions should measure SWB components separately. For example, life satisfaction is not equally affected by income inequality and happiness in the Chilean case and socioeconomic perception does not have the same relevance for Chilean people as their health status does (Chapter 4, section 4.3). Although some studies based on SWB analyses for policy purposes highlight the importance of summarised measures to inform policy makers in a comprehensive way (Dolan and Metcalfe, 2012), we support the importance of understanding how SWB components differ from each other in the first instance. According to my review, there are only two SWB indicators included in the CASEN survey, the main source used for social policy design in Chile: Health status perception and overall life satisfaction. Table 5.8 details the main topics covered by the CASEN survey from 1990 to its last application in 2015.

**Table 5.8** Topics covered by the CASEN survey 1990-2015

Topics	Year
Socio-demographic Housing composition	
Housing Equipment	
Living Conditions	1990; 1992; 1994; 1996; 1998; 2000;
Working Conditions	2003; 2006; 2009; 2011; 2013; 2015.
Health	
Education	
Incomes	
Ethnicity	1996; 2003; 2006, 2009; 2011, 2015
Disability	2003; 2006; 2009; 2011; 2013; 2015
Social protection	
Social participation	2003; 2009; 2011; 2013; 2015
Information and communication technologies	2006; 2009; 2011; 2013; 2015
Cultural capital	2006
Territorial mobility	2006; 2009; 2011; 2013; 2015
Background family of origin	
Energy use	2006; 2011; 2013; 2015
Citizens	2009
Contamination	2013
Public security	2013, 2015
Social support	
Gender	2015
Discrimination perceptions	
Well-being : Heath Status perception	2000; 2003; 2009; 2011; 2013; 2015
Well-being: Life satisfaction	2011; 2013

Prepared by the author on CASEN survey, MIDEPLAN, Chile 1990-2015.

Information related to living conditions, housing equipment and demographic, health, educational, income and occupational indicators have been collected from the beginning to the application survey at the present. Instead, some issues seem to be important to the Chilean policy after 2000 such as ethnicity (excepting for 1996), disability, social protection and social participation evaluation. Information about place of residence to analyse territorial mobility and the impact of occupation and educational parent's background on their children future have been incorporated from 2006 at the present. By contrast, contamination, citizen political knowledge and cultural capital were collected in one period only.

Some emergent topics collected systematically over the last periods are energy use and well-being perception, while in the last year gender, discrimination and social support evaluations have been introduced as relevant improvement to the social indicators collection in Chile. Particularly some well-being indicators have been introduced as two questions into the "health section". Health status perception is analysed from the question: *How do you feel about your current health status?*

Answers were classified using the scale 1.Very good; 2. Good; 3.Fair; 4.Poor and 5.Very poor. The second well-being indicator introduced later is addressing through the question: *taking into account all the aspects in your life, how satisfied do you feel now?* Answers were collected using an ordinal scale in which 1 means “completely unsatisfied” and 10 “Completely satisfied”.

As table above shows, properly well-being indicators are still limited in the CASEN survey, for example, life satisfaction is removed from the CASEN collection in 2015 and happiness is a missing indicator. It is suggested that official sources used to social policy design and evaluation gradually include SWB indicators, going from a basic set of questions to others based on specific life domains. For monitoring progress, questions evaluating overall life satisfaction, feelings of happiness and worry and meaning and purpose of life might be sufficient to start with, according to international consultants (Diener, 2012; Dolan and Metcalfe, 2012; Waldron, 2010).

Conversely, for informing policy design and evaluation, more specific information is required. For example life satisfaction questions by domains such as personal relationships, work, and place of residence are more informative than overall life satisfaction. Similarly, a more extensive list of moods measuring people’s experiences beyond overall happiness should be gradually incorporated into the national data collection processes. In this regard, inputs from other Chilean surveys focused on citizens’ opinions might be used as guidelines to incorporate more SWB questions in the CASEN survey. For example, ADIMARK-PUC and UDP surveys have collected a broader range of SWB indicators compared with the CASEN survey. Although relationships between SWB variables and other material aspects such as living conditions, incomes and labour history are not possible. Table 5.9 shows those SWB indicators covered by ADIMARK-PUC and UDP survey which can be used to improve the design of future CASEN surveys.

**Table 5.9** Subjective well-being indicators collected by ADIMARK-PUC and UDP surveys

		Topic covered	UDP	ADIMARK-PUC
Well-being by Domain	Overall well-being	Overall life satisfaction	2005; 2007; 2008; 2009; 2013.	
	Socioeconomic	Personal socioeconomic status perception at the present	2005; 2006; 2007; 2008; 2009; 2010; 2011; 2012; 2013; 2014; 2015.	2006; 2012
		Personal socioeconomic status perception in the future	2005; 2006; 2007; 2008; 2009; 2010; 2011; 2015.	
	Job	Job satisfaction	2005; 2006; 2007; 2008; 2009; 2013.	2006
		Job importance in your life	2006; 2007; 2008; 2009.	2006
	Leisure time	Leisure time satisfaction	2005; 2006; 2007; 2008; 2009.	2006; 2012
		Leisure time importance in your life	2006; 2007; 2008; 2009.	2006; 2012
	Partnership	Partnership satisfaction	2005; 2006; 2007; 2008; 2009; 2013.	2006; 2012
	Sexual life	Sexual life satisfaction	2005; 2006; 2007; 2008; 2009; 2013.	
	Health	Health status satisfaction	2005; 2006; 2007; 2008; 2009; 2013.	2006; 2010; 2012
	Education	Educational attainment satisfaction	2005; 2006; 2007; 2008; 2009.	
	Friendship	Friendship satisfaction	2005; 2006; 2007; 2008; 2009; 2013.	2006; 2012
		Friendships importance in your life	2006; 2007; 2008; 2009.	
	Family	Family satisfaction	2005; 2006; 2007; 2008; 2009; 2013.	2006; 2012
		Family relationships importance in your life	2007; 2008; 2009.	2006; 2012
	Neighbourhood	Neighbourhood Satisfaction	2007; 2008; 2009; 2013.	2006; 2007; 2012
	Self-esteem	Feelings loved, supported, with good physical appearance		2006
	Happiness	Overall happiness with life		2012
		Happiness in the present		2006
		Happiness now compared with two years go		2006
Happiness now compared with 5 years ago			2006	

Prepared by the author based on ADIMARK-PUC database (2005-2015) and UDP survey (2005-2015).

In the same line, the inclusion of eudaimonic indicators seems to be a relevant challenge, especially because the findings showed a greater effect of eudaimonic instead of hedonic components on Chileans' SWB. Moving from a predominantly hedonic perspective to a capability one requires the collection of information beyond positive emotions and feelings. In this regard, international guidelines should be used as starting point (See Chapter 2, Table 2.2 for a review of eudaimonic well-being indicators).

### **5.6.2 Promoting Functioning Well, Instead of Feeling Good.**

The identification of hedonic and eudaimonic as two differentiated components explaining Chileans' SWB positioned SWB as a phenomenon beyond pleasurable experiences and positive feelings. The findings suggest that SWB as an abstract concept is mostly explained by eudaimonic rather than hedonic well-being. Having freedom to choose and having control on their own lives as well as having meaning and purpose of life are the most important aspects explaining SWB rather than positive life satisfaction and greater happiness (Chapter 5, section 5.3).

Further research should improve the measurement of both SWB components, involving a wider range of observed variables. There are many aspects to be incorporated in future models examining SWB. In the case of the hedonic dimension, life satisfaction and happiness should consider specific life domains, experiences and time frame indicators. Eudaimonic also should be close to a flourishing life perspective, involving indicators such as interpersonal relationships, autonomy, competency and getting socially involved among others.

Accounting for findings, Chilean policy should propose ways through which Chileans can flourish and not just feeling well. That means that social interventions should be focused on promoting opportunities and freedoms to develop human capabilities over people's life courses. A review of those more emblematic social programmes implemented by Chile over the last decade, allowed concluding that Chilean social policy is following this line. Table 5.10 summaries those most relevant social programmes targeted by specific groups within the Chilean population.

**Table 5.10 Social programmes in Chile by age-groups**

<b>Social Programme</b>	<b>Target Group</b>	<b>Goals</b>	<b>From</b>
“Chile grows with you” (MIDEPLAN)	Children from 0 to 17 years old who are living in households in the lowest income quintile	Providing to vulnerable children a free access to education, health and leisure time, promoting their social inclusion and development.	2007
“Youth employability” (FOSIS)	Younger people in the age 18-24 years old who belong to the lowest income quintile	Improving employability opportunities of younger people through a labour training programme of six months.	1997
“Training for working” (FOSIS)	People between 18-59 years old who belong to the lowest income quintile	Improving labour and social inclusion through a programme of 5 months	1999
“Development of labour competences” (PRODEMU)	Unemployed women who belong to the lowest income quintile	Improving labour inclusion of women in the lowest income quintile through a programme of two months.	2002
“Professional training” (SENCE)	People between 18-29 years old People between 15-24 years old People between 25-49 years old People between 50-65 years old	Teaching skills for performing a specific profession following a training programme of 5 months.	1996
“Voucher labour for recruiting salaried people” (SENCE)	Economically active population between 18 and 65 years old.	Labour vouchers given to those companies who recruit unemployed people belonging to the lowest income quintile.	2002
“Small Business line” (FOSIS)	People over 18 years old who is part of the lowest income quintile.	Promote the creation of business, giving professional training and assistance for 9 months.	2002
“Access to credits” (MIDEPLAN)	Self-employer people with monthly sales under 70 U.F	Improving access to bank credits and agreements with foundations and cooperatives	2009

Prepared by the author based on IPOS reports (2011-2016). Social Department responsible of the programme is shown in brackets.

As table above shows, social policy in Chile is strongly focused on those who are part of the lowest income quintile. Social programmes implemented are always focused on the poorest, although making relevant differences according to people’s ages. Evidence here suggests that national policy has a focalised action on children, younger, economically active adults and older people.

Moreover, most of the programmes mentioned seek promoting the means through which Chileans could achieve a better life. A stronger emphasis in labour inclusion through training and educational skills is observed. This is consistent with our own results in which having an occupation and higher educational attainments are critical means achieving well-being.

### **5.6.3 Re-thinking the Predictors of Subjective Well-being Inequalities**

The use of a set of predictors on both, hedonic and eudaimonic dimensions made it possible to examine some similarities and differences within the Chilean population. Considering those social groups defined as priorities under Chilean social policy, this dissertation evaluated how hedonic and eudaimonic well-being are influenced by age, sex, education, marital status, parenthood, occupational status and income level.

A review of national policy reports during the last decade reveals that some people have been commonly labelled as vulnerable or priority groups. That means that most social investments and programmes have been focused on the oldest, the youngest, women, less educated, single householders, the unemployed, retired people, part-time workers, people who are self-employed and individuals belonging to the lowest income quintiles (IPOS, 2011-2016).

According to my own review, there are five social groups labelled as “vulnerable and priority” by the Chilean social policy from 2010 onwards. There are homeless people; people with significant adults deprived of their liberty; older people; disabled people and individuals who are part of a minority ethnic group. Table 5.11 details those main social programmes implemented for each priority social groups.

**Table 5.11 Social programmes in Chile by priority social group**

Social programme	Vulnerable group	Goals	From
“Decent night in Winter” (MIDEPLAN)	Homeless men and women, all ages	Temporal houses offered in winter season	2011
“Overcoming homeless” (MIDEPLAN)		Temporal houses in which assistance to overcome homeless is given.	2012
“Assistance for homeless people” (MIDEPLAN)		Promoting psychological and social skills to overcome the homeless condition	2010
“Opening paths” (MIDEPLAN)	Children in families in which a significant adult is deprived of his/her liberty	Psychological and social support to children in order to prevent or repair negative consequences of having someone deprived of liberty	2010
“Links” (SENAM)	People over 65 years old who are part of the lowest income quintile	Giving to older people free access to subsidies, health care and community engagement	2010
“Helping Centres” (SENAM)	People over 65 years old who are part of the first, second and third income quintile	Promoting physical and cognitive well-being in older people	2013
“Complementary benefits” (SENAM)	People over 65 years old who are part of the lowest income quintile	Promoting a positive later life giving knowledge and opportunities for personal, cognitive and social development	2013
“Caring at home” (SENAM)	People over 65 years old who are part of the first, second and third income quintile and they are not able to move independently	Providing a support network for those dependant adults and their careers.	2013
“Against abuse and violence” (SENAM)	People over 65 years who experienced abuse and violence in their home	Proving legal and social support to confront abuse and violence.	2012
“Helping to disabled people” (SENADIS)	Disabled people	Proving professional support to disabled people, seeking a better social inclusion and promoting their autonomy	2010
“Mental health voucher” (MIDEPLAN)	People under 18 years old who are suffering a mental illness and belonging to the lowest income quintile	Monthly monetary voucher	2010
“Indigenous development funds” (CONADI)	People who are part of an ethnic minority groups and associated to a particular community	Funds for agricultural equipment, formation of business and training	2008
“Land vouchers”		Provide or restore lands	2010

Prepared by the author based on IPOS reports (2011-2016). Social Department responsible of the programme is shown in brackets.

Some interesting things in the table above is that some programmes are covering some aspects of subjective well-being into their goals; even though none of them use subjective indicators to evaluate the final results obtained after the intervention. For example, “Assistance for homeless people”; “opening paths”, “helping centres”; “helping to disabled people” and the

majority of those programmes focused on older people. This evidence shows a good effort for including no-material goals as part of a global social policy carried out in Chile during 2010 onwards.

A second point to highlight is that social programmes in Chile are focused on priority groups often selected by the existence of a particular personal attribute, age group and income level. Therefore, when an individual has an attribute (such as disability, ethnic affiliation), having lower incomes and he or she is at a certain age, then, people are classified into a specific vulnerable group.

According to my own results, a highly focused social policy is a correct path to achieve better results; nevertheless, priority groups should be even more specific, taking into account that individual aspects predict SWB in different ways, constraining people's opportunities and pleasures in some cases and promoting them in others.

For example, the findings show that hedonic well-being is constrained by being aged over 60 years, being retired, unemployed, being a parent and being part of the first and second income quintiles. In contrast, hedonic well-being is positively promoted by being between 18 and 29 years old, living in a partnership, having higher educational attainment and belonging to the fifth and fourth income quintiles.

Otherwise, eudaimonic well-being is negatively influenced by being a parent and belonging to the first and second income quintiles, whereas being older, living in a partnership and being part of the fifth and fourth income quintiles promote eudaimonic well-being.

A comparative analysis suggests that being a parent and belonging to the lowest income quintiles constrain both SWB dimensions, while living in a couple and feeling part of the highest income quintiles are promoters of hedonic and eudaimonic well-being.

Income level appears to be a relevant predictor for both hedonic and eudaimonic well-being, therefore, income is a key means to achieving subjective well-being in Chile. Social policies focused on overcoming

poverty, improving salaries, creating better jobs and promoting labour skills should contribute to generating opportunities to achieve a better life. Additionally, social policy should put special attention on the negative effect of parenthood on Chileans' SWB because hedonic and eudaimonic well-being are constrained by this role. Finally, as was expected, belonging to the highest income quintiles promotes both hedonic and eudaimonic well-being as does living in a partnership. Further studies should explore those aspects positively influenced by living in a couple instead of living alone.

The findings mentioned suggest that future social policies should think on "integrated groups" rather than beneficiaries selected by a specific attribute, age and income. For example, an integrated group might be householder female in charge of disabled people, having children and belonging to the first two income quintiles, or older and disabled people living without a partner in their homes and belonging to the lowest three income quintiles.

Additionally, the results showed a low SWB not only for people in the lowest income quintile. As table 5.11 details, most of the social programmes include individuals classified in the lowest income quintile exclusively, letting outside an important segment of the Chilean population similarly vulnerable. Future social programmes should cover people in the second income quintile as well.

Finally, a higher number of significant predictors on hedonic rather than eudaimonic dimensions was found; therefore, there are other individual attributes better predicting eudaimonic well-being. Considering the previous literature review, deeper psychological characteristics might be involved such as personality, self-esteem, depression and others (Chapter 2, section 2.3.6). Despite the above, our findings preliminarily suggest that eudaimonic well-being is mostly affected by life events and transitions such as becoming a parent and living in a couple. In order to identify the influence of specific life events on SWB, longitudinal data covering long-term periods is needed.

# Chapter 6: Is Chileans' Subjective well-being affected by their Perceptions towards their Society?

## 6.1 Introduction

This chapter aims to answer the question: *Is Chileans' subjective well-being affected by their perceptions towards their society?* Using the capability approach to underpin our empirical analyses; this chapter examines how people's SWB is affected by their perceptions of inequalities and opportunities existing in Chilean society.

Although the previous chapter gives useful insights to understand how specific SWB dimensions work, hedonic and eudaimonic well-being considers SWB as an exclusive individual matter. In contrast, this chapter is far from that premise, supporting that individuals' SWB is strongly affected by their particular perception of the quality of their societal environment. Contrary to positive psychology which is focused on what people desire and feel as the main inputs to understand SWB; this chapter is based on the Capability approach because it interplays with individuals' perceptions about their own lives as well as their judgements on their society.

One of the most recognised advantages of the capability perspective is its particular attention to the societal characteristics which promote or restrict life chances. Opportunities, choices and empowerment are essential to provide an environment in which people are able to achieve a decent material standard of living as well as overall psychological well-being (Sen, 1992, 1999). In this regard, individuals' freedoms and their perception of opportunities to achieve a better life are highly connected with their SWB. That means that people's SWB is affected by the context in which people live; therefore, societies play a relevant role in promoting or constraining positive experiences and feelings. This point is highly relevant if nations are

concerned about citizens' SWB as one of their development goals, positioning good life judgements and emotions as a subject of political interventions.

The idea that people autonomously achieve their own goals by developing their personal combination of functionings was labelled by Amartya Sen as "agency" (Sen, 1992, 1999). Nevertheless, the agency of individuals' functionings is not an exclusive individual action. In contrast, agency always occurs "in context", thus freedoms, social justice and inequalities in the Chilean society might expand or restrict people's potential.

In the World Values Survey dataset (WVS) from 1990 to 2014, there are a selected set of functionings examining how much Chileans' agency in achieving a better SWB is promoted or constrained by specific characteristics of Chilean society. Those functionings are classified in two sets of capabilities: "*grade of confidence in national political institutions*" (CONFIDENCE), and "*trust in society*" (TRUST).

On the one hand, CONFIDENCE is measured by the functionings: grade of confidence in the Armed Forces (ARMY), in the National Police (POLICE), in Parliament (PARLIAM), in the Civil Services (CIVIL), in the government (GOVERN), and in the Political Parties (PPARTIES). On the other hand, TRUST is explained by four functionings: the perception that most people in Chilean society can be trusted (TRUSTED), the existence of respect for individual human rights nowadays (RIGHTS), the level of agreement about a more responsible government ensuring that everyone is provided for (EQGOV), and the perception of government which exists for all people's interests instead of broad interests (EQUALS).

Similarly to other studies, CONFIDENCE is used here as a proxy of "social malaise" with how a society is, predicting negative effects on Chileans' SWB by lower levels of institutional trust (Hudson, 2006; Böhnke, 2008; UNDP, 2012, Sánchez et al. 2017, Ciziceno et al. 2018). Otherwise, TRUST

is understood as the existence of opportunities to feel trusted in both, the community and the government as well as respected as a human being.

As mentioned in the next section, most of the studies measuring contextual effects on SWB have used life satisfaction as the main proxy of the latter. In this regard, this dissertation also evaluates the effects of CONFIDENCE and TRUST on life satisfaction (SATISF); however, the distinction between hedonic (HEDOC) and eudaimonic (EUDA) well-being discussed in Chapter 5 is also covered.

Evaluating SWB beyond life satisfaction is expected to contribute more precise information for future policy purposes. It should be noted that our previous findings confirm the existence of HEDOC and EUDA as two overlapping, but differentiated SWB dimensions, EUDA being the most important component explaining Chileans' SWB (Chapter 5, section 5.3). Accounting for that evidence, it seems relevant to examine the associations between HEDOC and EUDA with CONFIDENCE and TRUST as well as the use of SATISF as the classical SWB measure.

Additionally, a set of demographic and socioeconomic individual attributes are examined as control variables on CONFIDENCE and TRUST. These attributes involve variables such as age, sex, marital status, parenthood, education, occupational status and income. Under the capability approach, those characteristics called "individual endowments" might be sources of individual disparities in achieving functionings in a specific society (Sen, 1999). Therefore, people's confidence in political institutions and their feelings of trust in their society should show variations within the population according to the presence or not of those individual endowments. Additionally, the analyses include the effect of time using dummy variables to achieve reliable results.

Two of the hypotheses examined through this chapter anticipate positive effects on SWB by greater confidence in political institutions and trust in society, as well as a higher correlation between CONFIDENCE and TRUST.

**H6.1** Higher levels of confidence in national political institutions and trust in Chilean society have a positive effect on life satisfaction and hedonic and eudaimonic well-being.

**H6.2** A higher level of confidence in national political institutions is positively and highly associated with a greater trust in Chilean society.

It is expected that these findings contribute to understanding people's SWB as personal states also influenced by their society. As mentioned in the literature review (Chapter 2, Section 2.5), most national studies examine the relationship between life satisfaction and happiness with socioeconomic and demographic aspects at the individual level. Nevertheless, there are no studies involving perceptions towards society in Chile, except for the UNDP subjective well-being report in 2012.

In fact, a relevant conclusion of that study was a greater gap between individual subjective well-being measured by life satisfaction, and social subjective well-being accounting for institutional trust and opportunities. The results showed that Chileans have a positive perception of their own lives, but negative judgements about the opportunities for achieving a better life, as well as lower confidence in national institutions (UNDP, 2012). That evidence suggests that Chileans experience a greater "social malaise", because Chilean society is not able to support those significant things "to do" and "being".

Accounting for that evidence, this chapter supports that people's feelings and thoughts about their own lives depend on the support offered by the context in which individuals live. It is expected that a greater SWB is not achievable on the margins of the society, because positive life evaluations and feelings vary according to specific contextual characteristics. Particularly, this dissertation evaluates the effect of CONFIDENCE and TRUST on SWB, measuring the latter beyond life satisfaction or happiness, as commonly occur in the majority of similar international studies and in the unique national research experience (Frey and Stutzer, 2000; Hudson, 2006;

Veenhoven, 2010; Li and Bond, 2010; UNDP, 2012; Brulé and Veenhoven, 2014; Sánchez et al. 2017).

The chapter continues in the following section with a brief empirical background showing the main findings in similar studies. Section 6.3 presents the results and then a discussion of these findings. Then, the main conclusions and limitations are presented. The chapter ends with social policy implications underpinned by the results.

## **6.2 Empirical Framework**

As previously mentioned in the literature review (Chapter 2, Section 2.4.2), there are studies supporting that good evaluations of the social context in which people live are also positively associated with favourable SWB states. Analyses based on people's confidence in social institutions, political, economic and social freedom and generalised trust in society have been broadly covered as SWB predictors.

Studies based on the association between institutional trust and SWB have found higher life satisfaction in those societies with solid and trusted institutions (Hudson, 2006; UNDP, 2012; Sánchez et al. 2017; Ciziceno et al. 2018), which are less corrupt (Chang and Chu; 2006) and socially recognised to protect individual rights (Frey and Stutzer; 2000). In other cases, people's trust in institutions has been used as a proxy measure of social malaise, because lower confidence in the main entities of social control should negatively impact the feelings, thinking and acting of individuals (Hudson, 2006; Aschauer, 2014; Elchardus and De Keere, 2013).

A positive association has also been highlighted between people's SWB and their trust in society. Some studies found greater social malaise in those societies with lower interpersonal trust and satisfaction with society (Böhnke, 2008; Elchardus and De Keere, 2013) and higher happiness in nations concerned with promoting economic, political and social freedom (Brulé and Veenhoven, 2014).

Another area of study associating individual SWB with one's view on society have been focused on how some characteristics of modern societies affect people's life satisfaction and happiness. On one hand, a conservative perspective argues that modernisation leads to individualistic societies, decreasing people's SWB because individual rights are in conflict with the needs of the community. As a result, individualism would destroy relevant social institutions such as family and neighbourhood (Etzioni, 1993) and increase rates of homicide, suicide, delinquency and other behaviours associated with psychological disturbance (Naroll, 1983; Jenkins et al. 1991).

Conversely, a liberal approach argues that individualistic societies promote amoral and selfish behaviours. In fact, studies have shown that social involvement and moral responsibility are encouraged by a strong identity, self-esteem and self-actualisation, all intrinsic characteristics of modern societies (Waterman, 1984; Veenhoven, 1999, 2007, 2010; Li and Bond, 2010). Higher levels of happiness and life satisfaction have been reported in modern rather than traditional societies (Böhnke, 2008; Veenhoven, 2010, Brulé and Veenhoven, 2014).

Contrary to an increasing interest for evaluating the impact of societal aspects on individual SWB in international studies, this topic is still new in the national research context. The most relevant study focused on this association is the UNDP report in 2012 which examines "social subjective well-being". Using indicators such as confidence in national institutions and evaluation of the opportunities given by Chile, a huge gap between individual SWB and Chileans' view on their society was observed.

The UNDP report showed that Chileans have a negative perception of the opportunities given by Chile, the worst being evaluated "feeling confidence confronting unemployment, delinquency and illnesses", "influencing and participating in national decision-making", "satisfying your basic needs", and "enjoying good health". Additionally, the UNDP report also showed lower confidence in institutions including governmental, religious, communication and social organisations. Using an index involving 10

institutions, Chile placed among the 13 countries with the greatest mistrust out of a total of 97 nations (UNDP, 2012).

Using a structural equation model (SEM) as the main method of analysis, this chapter examines if individual SWB is well predicted by confidence in national political institutions and trust in Chilean society. Accounting for an analysis of SWB “in context” it is expected that people’s view on society shows a significant association with SWB measured by life satisfaction, but also for hedonic and eudaimonic dimensions.

## **6.3 Results**

### **6.3.1 Data Overview**

Using data from the World Social Values Survey from 1990 to 2014, two aspects related to people’s perceptions of Chilean society were selected. The first aspect examines the level of people’s confidence in national political institutions by six indicators: Confidence in Political Parties (PPARTIES), Civil Services (CIVIL), Parliament (PARLIAM), government (GOVERN), Armed Forces (ARMY), and Police (POLICE). The second group measures trust in society involving four observed variables: a generalised trust in society (TRUSTED), respect for individual human rights (RIGHTS), a government taking greater responsibility for providing everything that people need (EQGOV) and a government running for all people’s interests, instead of big interests (EQUALS).

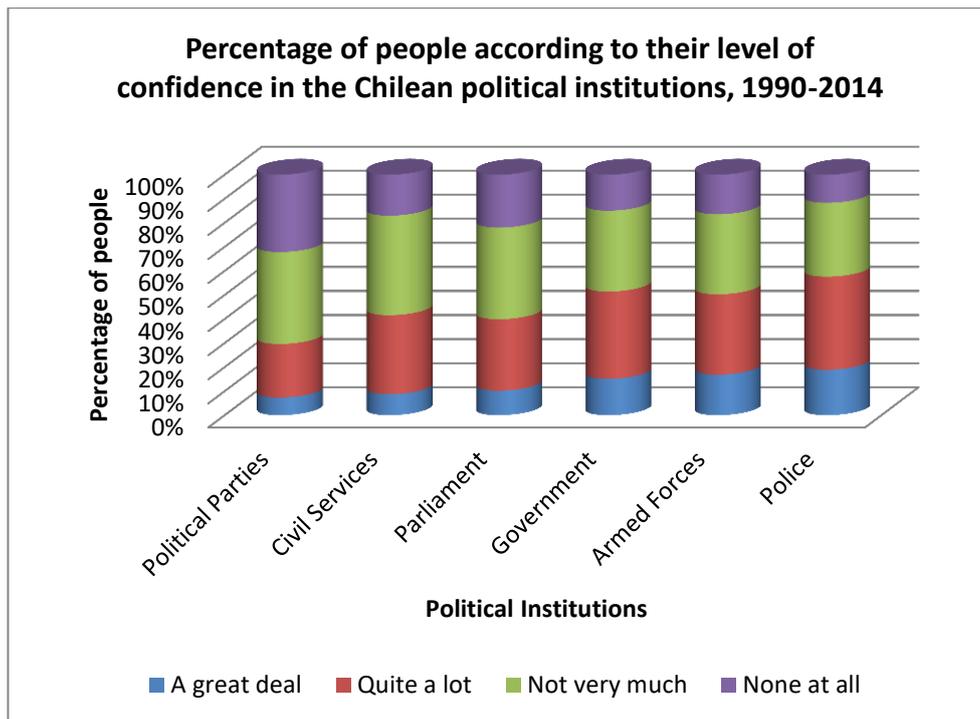
Through this chapter, these two societal aspects are evaluated as predictors of Chileans’ SWB. In the first instance, how life satisfaction (SATISF) is influenced by the level of confidence in political institutions is measured (CONFIDENCE), as well as a generalised trust in society (TRUST). Subsequently, SWB is examined by hedonic (HEDOC) and eudaimonic (EUDA) well-being, with the aim of contributing a wider analysis. Table 6.1 describes the variables used to explore the association between perception of Chilean society and different SWB indicators.

**Table 6.1** List of variables selected from the World Values Survey for Chile, 1990-2014.

	Variables	Label	Measurement Scale*
<b>Life Satisfaction (SATISF)</b>	<b>SATISF</b>	Satisfaction with your life (A170)	Ordinal 1 Dissatisfied 2 Not dissatisfied at all 3 Satisfied
	<b>SATISF</b>	Satisfaction with your life (A170)	Ordinal 1 Dissatisfied 2 Not dissatisfied at all 3 Satisfied
<b>Hedonic (HEDOC)</b>	<b>HAPPY</b>	Feeling of happiness (A008)	Dummy
	<b>FREEDOM</b>	How much freedom of choice and control of your life you have (A173)	Dummy
<b>Eudaimonic (EUDA)</b>	<b>PURPOSE</b>	Thinking about meaning and purpose of life (F001)	Dummy
	<b>ARMY</b>	How much confidence do you have in the Armed Forces? (E069_02)	Dummy
<b>CONFIDENCE</b>	<b>POLICE</b>	How much confidence do you have in the National Police? (E069_06)	Dummy
	<b>PARLIAM</b>	How much confidence do you have in Parliament? (E069_07)	Dummy
	<b>CIVIL</b>	How much confidence do you have in the Civil Services? (E069_08)	Dummy
	<b>GOVERN</b>	How much confidence do you have in the government? (E069_11)	Dummy
	<b>PPARTIES</b>	How much confidence do you have in the Political Parties? (E069_12)	Dummy
	<b>TRUST</b>	<b>TRUSTED</b>	Most people can be trusted (A165)
<b>RIGHTS</b>		Respect for individual human rights nowadays (E124)	Dummy
<b>EQGOV</b>		Level of agreement about a more responsible government ensuring that everyone is provided for (E037)	Dummy
<b>EQUALS</b>		The government runs for all people's interests instead of big interests (E128)	Dummy

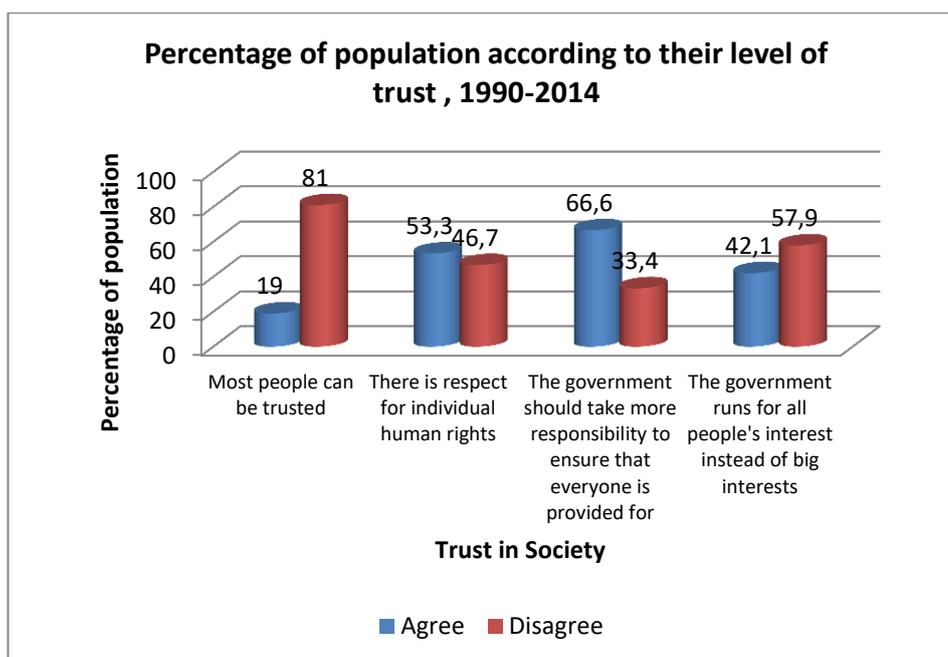
World Values Survey, 1990-2014. Original questions format are shown in brackets. \*Measurement scale was changed to estimate a good data fit in the multivariate analysis. See APPENDIX 3.2 for recoding details.

A descriptive analysis based on those social aspects related to Chileans' perception gives a general overview of data examined. Figure 6.1 shows the level of people's confidence in political institutions in Chile from 1990 to 2014. Data indicates that less than 50% of the population report a great or a lot of confidence in the six political institutions analysed. The National Police is the best evaluated institution and then the Armed Forces and the government. Conversely, Chilean people declare the lowest trust in Political Parties followed by the Civil Services managed by the government and the Parliament.



**Figure 6.1** Prepared by the author based on the World Values Survey, 1990-2014, N=5,700

Figure 6.2 illustrates the percentage of the population according to their trust in society evaluated by the level of agreement in the statements “most people can be trusted” (TRUSTED), “there is respect for human rights” (RIGHTS), “the government should take more responsibility to ensure that everyone is provided for” (EQGOV) and “the government runs for all people’s interests instead of big interests” (EQUALS). Data suggest that most Chileans do not usually feel trusted and equally treated. Moreover, around half of the population agree that individual human rights are respected and 67% of Chileans report that the government should have a more active role in ensuring a better social environment in which to live.



**Figure 6.2** Prepared by the author based on the World Values Survey, 1990-2014, N=5,700

Taking into consideration that the perception of Chilean society might be affected by individual differences; a set of demographic and socioeconomic characteristics are examined as control variables. Table 6.2 details those variables and their respective scale measure.

**Table 6.2** List of covariates selected from the World Values Survey for Chile, 1990-2014.

Covariates	Label	Measurement Scale*
<b>YOUNGER</b>	Aged between 18 - 29 years old (X003)	Dummy
<b>OLDER</b>	Aged over 60 years old (X003)	Dummy
<b>PARTNER</b>	Living with a stable partner (X007)	Dummy
<b>MAN</b>	Being a man (X001)	Dummy
<b>HEDUCATION</b>	Higher education and postgraduate studies as the maximum attainment (X025)	Dummy
<b>RETIRED</b>	Being a retired person (X028)	Dummy
<b>UNEMPL</b>	Being currently unemployed (X028)	Dummy
<b>PARENT</b>	Having children? (X011)	Dummy
<b>QUINTILE1</b>	Positioning in the lowest or second step in a subjective income scale (X047)	Dummy
<b>QUINTILE2</b>	Positioning in the third or fourth step in a subjective income scale (X047)	Dummy
<b>QUINTILE4</b>	Positioning in the seventh or eighth step in a subjective income scale (X047)	Dummy
<b>QUINTILE5</b>	Positioning in the ninth or tenth step in a subjective income scale (X047)	Dummy
<b>YEAR3</b>	Period from 1994 to 1998 (S003)	Dummy
<b>YEAR5</b>	Period from 2005 to 2009 (S003)	Dummy
<b>YEAR6</b>	Period from 2010 to 2014 (S003)	Dummy

World Values Survey, 1990-2014. Original questions format are shown in brackets.  
\*Measurement scale was changed to estimate a good data fit in the multivariate analysis.  
See APPENDIX 3.1 for recoding details.

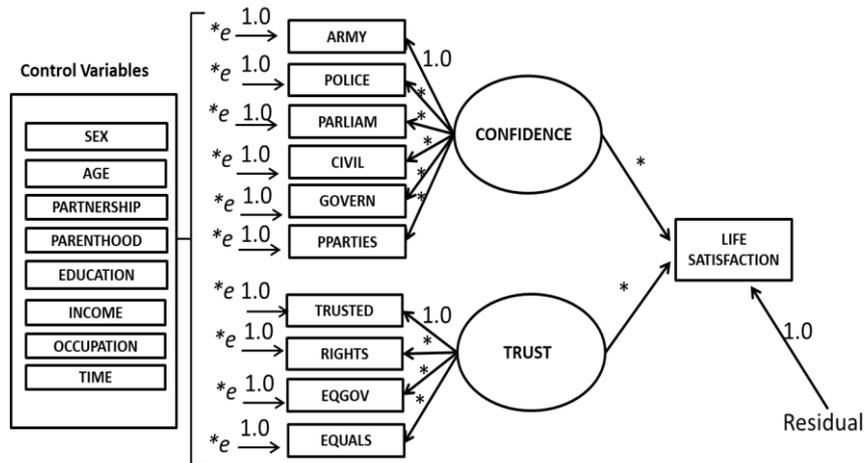
Through the next section, a multidimensional analysis involving the variables examined up until this point is developed. Using a structural equation model as the main method of analysis, it examines the association between SWB and people's institutional confidence and generalised trust in their society.

### **6.3.2 Multidimensional Analysis**

*“Level of confidence in national political institutions”* (CONFIDENCE) is measured by six observed indicators: level of confidence in the Armed Forces (ARMY), in the National Police (POLICE), in Parliament (PARLIAM), in the Civil Services (CIVIL), in the government (GOVERN), and in Political Parties (PPARTIES).

*“Trust in society”* (TRUST) is explained by four indicators: positive perception that most people in Chilean society can be trusted (TRUSTED), the existence of respect for individual human rights nowadays (RIGHTS), the level of agreement about a more responsible government ensuring that everyone is provided for (EQGOV) and the perception that the government runs for all people's interests instead of big interests (EQUALS).

Figure 6.3 draws a CFA model examining the effects of CONFIDENCE, and TRUST as latent variables on life satisfaction, controlling by a set of key covariates. Hypothesis 6.1 was evaluated through this model, expecting a positive effect of CONFIDENCE and TRUST on life satisfaction controlling by socio-demographics and time.



**Figure 6.3** CFA Model examining the effect of CONFIDENCE and TRUST on life satisfaction controlling by socio-demographic and time effects.

Table 6.3 details the standardised coefficients for each observed variable explaining their respective latent variables as well as the impact of CONFIDENCE and TRUST on life satisfaction. Data support hypothesis 6.1 because a greater confidence in political institutions ( $\beta=0.433$ ,  $p<0.000$ ), as well as a positive generalised trust in society are confirmed ( $\beta=0.686$ ,  $p<0.000$ ). The results also show a positive higher correlation between CONFIDENCE and TRUST ( $\beta=0.882$ ,  $p<0.000$ ), supporting hypothesis 6.2. Moreover, a comparison between both latent predictors shows that life satisfaction is mostly influenced by TRUST rather than CONFIDENCE. Further implications of this evidence are discussed later (Section 6.4).

**Table 6.3** CFA model examining the standardised effects of CONFIDENCE and TRUST on Life satisfaction with covariates

	<b>Coefficient</b>	<b>95% CI</b>
<b>CONFIDENCE</b>		
ARMY	0.544** (0.019)	0.507 – 0.581
POLICE	0.695** (0.016)	0.663 – 0.726
PARLIAM	0.936** (0.009)	0.917 – 0.954
CIVIL	0.797** (0.013)	0.772 – 0.821
GOVERN	0.790** (0.013)	0.765 – 0.815
PPARTIES	0.825** (0.013)	0.799 – 0.851
<b>TRUST</b>		
TRUSTED	0.128** (0.032)	0.066 – 0.191
RIGHTS	0.330** (0.031)	0.270 – 0.390
EQGOV	-0.138** (0.028)	-0.193 – -0.084
EQUALS	0.227** (0.037)	0.156 – 0.299
<b>CONFIDENCE ON SATISF</b>	0.433** (0.106)	0.640 – 0.225
<b>TRUST ON SATISF</b>	0.686** (0.101)	0.426 – 0.884
<b>CONFIDENCE WITH TRUST</b>	0.882** (0.054)	0.781 – 0.977
<b>Fit Measures</b>		
Chi square	880.168 (177 d.f)	
p-value	p<0.0000	
RMSEA	0.032	
CFI	0.944	
TLI	0.930	
N	3,891	

World Values Survey, 1990-2014. STDY coefficients are shown<sup>17</sup>. Significant level at \*\*p<0.05; \*p<0.10, ns=no significant. Standardised errors are shown in brackets. All coefficients show 95% confidence intervals. Estimator= WLSMV<sup>18</sup>. See APPENDIX 6.1 for more details.

A more specific evaluation examining the effect of individual characteristics on each latent variable suggests some interesting findings. Table 6.4 indicates that CONFIDENCE is negatively affected by being younger, YOUNGER ( $\beta=-0.134$ ,  $p<0.009$ ) but is positively affected by being over 60 years old, OLDER ( $\beta=0.209$ ,  $p<0.001$ ). Furthermore, institutional trust is not significantly impacted by feeling part of the "middle" income distribution; however extreme socioeconomic groups are significant predictors. Data reveal that the poorest groups have a negative trust in political institutions (QUINTILE1, ( $\beta=-0.109$ ,  $p<0.048$ ), whereas the richest show a positive perception. (QUINTILE5,  $\beta=0.170$ ,  $p<0.049$ ).

Regarding TRUST, the findings show that this is not affected by age, gender and parenthood; however, it is positively impacted on by living in a partnership, PARTNER, ( $\beta=0.262$ ,  $p<0.000$ ), having a higher level of

<sup>17</sup> Standardised solution recommended for models with binary covariances (Kelloway, 2015; Mplus User's Guide (2017, pp.800).

<sup>2</sup> weighted least square parameter estimates using errors and mean- and variance adjusted chi-square test statistic that use a full weight matrix (Mplus User's Guide (2017, pp.668).

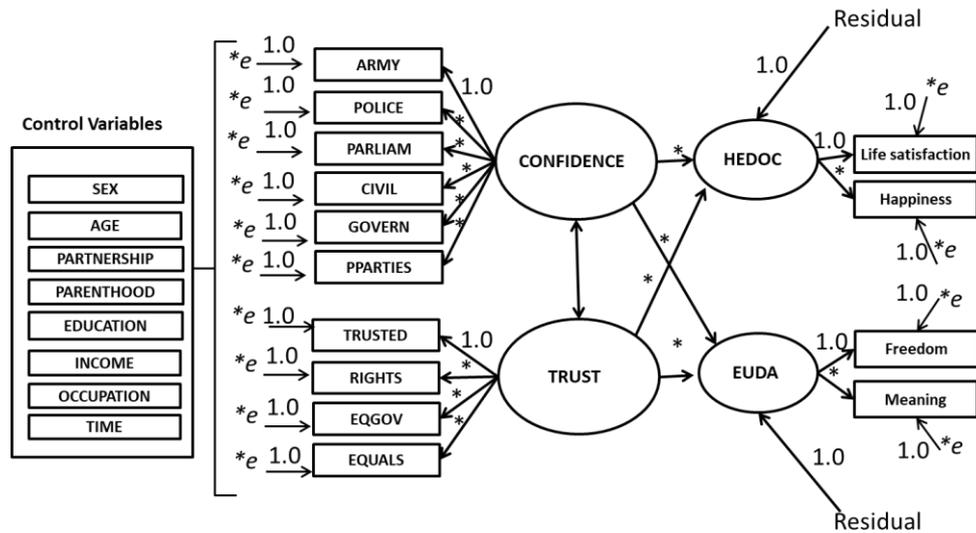
education, HEDUCATION ( $\beta=0.256$ ,  $p<0.001$ ), and being self-labelled as part of the fourth, QUINTILE4, ( $\beta=0.273$ ,  $p<0.003$ ) and fifth income quintiles, QUINTILE5, ( $\beta=0.880$ ,  $p<0.000$ ). In contrast, negative effects on TRUST were found for being unemployed, UNEMPL, ( $\beta=-0.365$ ,  $p<0.003$ ), and belonging to the first quintile, QUINTILE1, ( $\beta=-0.604$ ,  $p<0.000$ ) and the second, QUINTILE2, ( $\beta=-0.303$ ,  $p<0.000$ ).

**Table 6.4** Effect of covariates on CONFIDENCE and TRUST on life satisfaction

	CONFIDENCE	TRUST
YOUNGER	-0.134** (0.051)	-0.035 <sup>ns</sup> (0.076)
OLDER	0.209** (0.062)	0.184 <sup>ns</sup> (0.095)
PARTNER	0.024 <sup>ns</sup> (0.046)	0.262** (0.071)
MAN	-0.051 <sup>ns</sup> (0.038)	0.012 <sup>ns</sup> (0.057)
HEDUCATION	0.069 <sup>ns</sup> (0.051)	0.256** (0.081)
RETIRED	0.106 <sup>ns</sup> (0.084)	-0.127 <sup>ns</sup> (0.129)
UNEMPL	-0.086 <sup>ns</sup> (0.086)	-0.365** (0.123)
PARENT	-0.006 <sup>ns</sup> (0.058)	-0.168 <sup>ns</sup> (0.086)
QUINTILE1	-0.109** (0.097)	-0.604** (0.097)
QUINTILE2	-0.032 <sup>ns</sup> (0.082)	-0.303** (0.082)
QUINTILE4	0.071 <sup>ns</sup> (0.093)	0.273** (0.093)
QUINTILE5	0.170** (0.178)	0.880** (0.178)
YEAR3	-0.003 <sup>ns</sup> (0.071)	-0.205** (0.071)
YEAR5	-0.252** (0.079)	-0.105 <sup>ns</sup> (0.079)
YEAR6	-0.176** (0.074)	-0.055 <sup>ns</sup> (0.074)

World Values Survey, 1990-2014. STDY coefficients are shown. Significant level at \*\* $p<0.05$ ; \* $p<0.10$ , ns=no significant. Standardised errors are shown in brackets. All coefficients show 95% confidence intervals. See APPENDIX 6.1 for more details.

Figure 6.4 illustrates the second CFA model evaluating the effect of CONFIDENCE and TRUST on HEDOC and EUDA well-being. Compared with the previous model, SWB is examined by these two differentiated dimensions, instead of a single observed indicator such as life satisfaction (See more details in Chapter 5, section 5.3). Through this model both hypotheses were evaluated, predicting positive effects on HEDOC and EUDA by CONFIDENCE and TRUST.



**Figure 6.4** CFA Model examining the effect of CONFIDENCE and TRUST on HEDOC and EUDA well-being controlling by socio-demographic and time effects.

Table 6.5 shows the standardised coefficients for each observed indicator and latent construct included in the model shown above. The findings confirm hypothesis 6.1, showing significant positive effects of CONFIDENCE on HEDOC and EUDA ( $\beta=0.632$  and  $\beta=0.496$ ,  $p<0.000$ ) as well as positive impacts of TRUST on HEDOC ( $\beta=0.910$ ,  $p<0.000$ ) and EUDA ( $\beta=0.896$ ,  $p<0.000$ ). Regarding hypothesis 6.2, data shows a positive higher correlation between CONFIDENCE and TRUST, which is consistent with the first CFA model based only on life satisfaction as a dependent variable ( $\beta=0.879$ ,  $p<0.000$ ).

**Table 6.5** CFA model examining the effect of CONFIDENCE and TRUST on HEDONIC and EUDAIMONIC with covariates

	<b>Coefficient</b>	<b>95% CI</b>
<b>HEDOC</b>		
SATISF	0.786** (0.024)	0.739 – 0.833
HAPPY	0.692** (0.025)	0.642 – 0.742
<b>EUDA</b>		
FREEDOM	0.547** (0.076)	0.397 – 0.697
PURPOSE	0.172** (0.034)	0.106 – 0.238
<b>CONFIDENCE</b>		
ARMY	0.545** (0.019)	0.508 – 0.582
POLICE	0.695** (0.016)	0.664 – 0.727
PARLIAM	0.937** (0.009)	0.919 – 0.955
CIVIL	0.795** (0.013)	0.771 – 0.820
GOVERN	0.791** (0.013)	0.765 – 0.816
PPARTIES	0.823** (0.013)	0.797 – 0.850
<b>TRUST</b>		
TRUSTED	0.128** (0.032)	0.066 – 0.191
RIGHTS	0.330** (0.029)	0.272 – 0.387
EQGOV	-0.146** (0.027)	-0.200 - -0.092
EQUALS	0.230** (0.036)	0.158 – 0.301
<b>CONFIDENCE ON HEDOC</b>	0.632** (0.148)	0.921 – 0.343
<b>TRUST ON HEDOC</b>	0.910** (0.139)	0.717 - 0.989
<b>CONFIDENCE ON EUDA</b>	0.496** (0.160)	0.809 – 0.183
<b>TRUST ON EUDA</b>	0.896** (0.182)	0.539 – 0.926
<b>CONFIDENCE WITH TRUST</b>	0.879** (0.046)	0.789 - 0.969
<b>Fit Measures</b>		
Chi square	1014.021 (251 d.f)	
p-value	p<0.0000	
RMSEA	0.028	
CFI	0.945	
TLI	0.934	
N	3,891	

World Values Survey, 1990-2014. STDY coefficients are shown. Significant level at \*\*p<0.05; \*p<0.10, ns=no significant. Standardised errors are shown in brackets. All coefficients show 95% confidence intervals. Estimator= WLSMV. Covariates on CONFIDENCE and TRUST showed the same associations described in Table 6.4. See APPENDIX 6.2 for more details.

Similar to the first CFA model examined (Figure 6.3), data suggest that CONFIDENCE and TRUST are significant predictors of both SWB dimensions and not only on the hedonic aspect. As previously discussed in the literature review (Chapter 2, Section 2.4.2), the current evidence evaluating the effect of contextual aspects on SWB has been strongly focused on the hedonic aspect, analysing life satisfaction and to a lesser extent, happiness, as the classical SWB measures.

The findings here highlight that subjective well-being beyond pleasurable experiences and positive emotions is also impacted on by societal characteristics. This evidence is especially relevant accounting for the higher effect on SWB by EUDA found in the previous chapter (Chapter 5,

section 5.3). The insights here show that personal judgements and feelings are connected and significantly influenced by those opportunities and constraints perceived as part of Chilean society. This suggests that SWB is far from an exclusive individual matter, because the society in which people live plays a relevant role in them achieving well-being.

Contrasting both societal predictors, the results indicate that confidence in political institutions is a positive significant predictor on life satisfaction and hedonic and eudaimonic well-being; however it is less important than people's trust in their society. Control variables applied to the second CFA model (Figure 6.4) reported the same effects discovered in the first model (Figure 6.3). On one hand, CONFIDENCE is only positively influenced by being an older person and identifying as part of the fifth quintile, whereas being younger and poor showed a negative effect. On the other hand, TRUST is positively predicted by living in a partnership, having educational qualifications and feeling part of the two highest income quintiles, whereas being unemployed and belonging to the lowest two quintiles negatively impact on TRUST. The potential implications of these insights are discussed in the last section of this chapter.

Including time a dummy variable on CONFIDENCE and TRUST, provided unclear interpretation. Beyond the contribution of including time to improve the robustness of the method, longer and more specific periods of time are needed to examine how SWB is impacted on by contextual changes over time. This is a limitation of this study and it should be covered by further research.

#### **6.4 Discussion**

Two hypotheses were examined and confirmed through the multidimensional analysis. Both models supported hypothesis 6.1 because life satisfaction is positively affected by Chileans' confidence in political institutions and trust in society. Data also underpin a positive higher correlation between both constructs, confirming hypothesis 6.2.

Accounting for both CFA models, all the observed variables positively explain their respective constructs (CONFIDENCE or TRUST), except for “the government should take more responsibility to ensure that everyone is provided for” (EQGOV) loaded on TRUST. A possible explanation is the trend towards more individualistic societies as a result of modernisation (Veenhoven, 1998; Li and Bond, 2010; Hooghe, 2012). Trust in modern societies would be related to greater personal freedom to act independently, and being less controlled by normative prescriptions.

For example, Veenhoven (1998) reported lower individualistic values for Chile prior to the 90’s, accounting for the valuation of autonomy, and for the opportunity and capability to choose. Nevertheless, using data from 2000 to 2008, Veenhoven (2010) later reported a positive association of societal modernisation (measured by buying power) on happiness and longevity in 143 nations including Chile. Similarly, Li and Bond (2010) concluded that before the 90’s people with higher individualistic values had lower life satisfaction; however, after that period, individuals’ life satisfaction increased in modern societies, and even more so in those nations with higher human development.

Accounting for that evidence, the negative impact of EQGOV on TRUST could be explained by Chileans thinking that the government having a stronger role might constrain their individual freedoms, instead of promoting them. This evidence is particularly relevant for policy purposes because the results suggest that people’s trust in society is closely linked to a government focused on the development of capabilities rather than one taking on a paternalistic role. That means that individual SWB might be positively influenced by policies accounting for the active role of the individuals in achieving their own valuable well-being.

The findings in this chapter also show that life satisfaction, hedonic and eudaimonic well-being are strongly affected by TRUST. This result is consistent with Hooghe (2012) who found a positive significant effect of having a generalised trust in society on Belgians’ SWB measured by satisfaction with their social, family and sexual life, leisure time and health.

Similarly, Aschauer (2014) also concluded that general well-being in Europe is strongly explained by satisfaction with society and personal trust, and is weakly affected by feelings of security, work relations and political trust.

Our findings are also consistent with the evidence shown in the UNDP national subjective well-being report (2012). They concluded that “feeling respected as human beings” is the most valued societal aspect by Chileans, followed by “feeling safe” and then by “having basic needs satisfied”. Through our results, it is confirmed that TRUST has the strongest impact on life satisfaction as a single indicator, but also on HEDOC and EUDA as SWB dimensions (Table 6.3 and 6.5 respectively).

As was shown, CONFIDENCE is also a significant predictor of Chileans’ SWB, but weaker than TRUST on life satisfaction as a single SWB indicator and hedonic and eudaimonic as SWB dimensions. The positive impact of CONFIDENCE on life satisfaction and hedonic well-being has been widely documented (Frey and Stutzer, 2000; Chang and Chu; 2006; Hudson, 2006; UNDP, 2012; Elchardus and De Keere, 2013; Aschauer, 2014; Sánchez et al. 2017; Ciziceno et al. 2018); nevertheless, it was also discovered here that eudaimonic well-being also positively impacts on higher institutional trust. This preliminary insight highlights the relevance of understanding SWB beyond life satisfaction and happiness as the classical single indicators.

Accounting for possible inequalities within the population, a set of “individual endowments” was examined on CONFIDENCE and TRUST (Table 6.4). The variables included were age, sex, marital status, educational attainment, parenthood, occupational status and self-reported income quintile. Additionally, the inclusion of dummy variables allowed us to control results by time.

Regarding CONFIDENCE, the results show that younger people have a negative perception of political institutions, whereas individuals over 60 years of age showed a positive view. Similar conclusions have been found

in studies associating institutional trust and age. For example, Hudson (2006) pointed out that institutional trust significantly increases with age because people adjust their beliefs over time as a result of their greater knowledge and life experiences. Aschauer (2014) also found a positive association between societal well-being and political trust controlling by age.

Our results also suggest that people living in an advantageous socioeconomic position also declare a greater institutional trust in Chilean political institutions. This evidence is consistent with other studies in which people employed in highly skilled jobs are more trusting than those in blue collar occupations (Elchardus and De Keere, 2013) as well as those who are wealthier and better educated (Putnam, 2000; Hudson, 2006; Ciziceno, and Travaglino, 2018). On the contrary, our insights do not support other significant individual effects on CONFIDENCE found in the literature review, such as the positive effect of living in a partnership and the negative impact of being unemployed (Hudson, 2006).

Compared with CONFIDENCE, a large number of individual endowments show significant effects on TRUST. Living as a couple, having higher educational studies and feeling part of the highest two income quintiles are all positive predictors of trust in Chilean society. In contrast, being unemployed and belonging to the first or second income group have a negative impact on people's generalised trust. Some similarities with Hooghe's work (2012) are related to the positive effect of having a partner on people's views on society and no significant effect by gender. Moreover, our results are close to those higher scores reported by wealthier Chileans regarding the opportunities provided by Chilean society to achieve personal well-being (UNDP, 2012).

Preliminary results suggest the existence of two social groups in Chile. Firstly, those who trust in society because they enjoy good material status as well as a positive personal well-being and secondly, those who lack of the means to satisfy both, material needs and subjective well-being. In particular it was observed that the absence of a job and having lower

incomes negatively affect Chileans' perception about the context in which they live, probably because they constitute the most vulnerable social group. Chapter 7 seeks a deeper understanding of the link between SWB and basic material needs.

Finally, a review of the effect of time on CONFIDENCE and TRUST shows mixed results. The clearest result is the negative effect of time on CONFIDENCE. As well as the UNDP report (2012), our findings suggest that Chileans' institutional trust has decreased over the last decade, denoting a greater social malaise among the population. Less conclusive are the effects of time on TRUST, therefore, further research accounting for a temporal analysis on societal well-being perception is required in the future.

### **6.5 Conclusions and Limitations**

The main thing to be learned from this chapter is that people's view on society has an impact on their SWB. As previously mentioned, CONFIDENCE and TRUST have a positive influence on Chileans' SWB and they are positively and highly correlated.

A contribution of this work was the inclusion of the eudaimonic dimension in contrast to an analysis exclusively based on the hedonic component. We found that Chileans' eudaimonic well-being is influenced by societal perceptions as well as hedonic well-being. In fact, similar impacts on hedonic and eudaimonic well-being were observed in the two models proposed, highlighting a stronger effect of CONFIDENCE on HEDOC, but a higher similar impact of TRUST on HEDOC and EUDA. The findings support that not only life satisfaction and happiness are influenced by the society in which individuals live. Having freedom to choose and control over their own lives, as well as having a meaning and purpose in life can be also promoted or restricted by the specific characteristics of a society.

Beyond the idea that SWB depends exclusively on individual psychological characteristics and personal efforts, this chapter highlights the relevance of society as promoter or constrainer of individuals' functionings and opportunities to achieve well-being. As expected, positive feelings and life

judgements measured by the hedonic dimension are predicted by the societal environment, but is the eudaimonic dimension. This conclusion underpins the relevance of including SWB in the political national agenda, because the context influences people's lives beyond their pleasures and feelings.

Further research should avoid a reductionist perspective based on SWB as an exclusive psychological phenomenon. This chapter offers a starting point bridging both perceptions about personal well-being and one's view on society. Nonetheless, some limitations of the present study are related to the empirical application of the capability approach.

Although people's confidence in political institutions and trust in society are commonly included in societal well-being studies, this dissertation does involve other aspects highlighted issues which are mistrusted in Chilean society. According to UNDP (2012) Chilean social malaise is partly reflected by a lower confidence in national institutions because there are other more important aspects such as citizens' safety, having a significant political participation, having basic needs satisfied, having opportunities to enjoy good health and being educated and informed. Unfortunately, data available for Chile in the WVS survey does not allow this research to cover such a broad range of dimensions. Further research should explore the impact of people's views on society accounting for a more precise picture of the impact of the context on people's SWB.

Moreover, it is necessary to conduct a deeper examination of how perception of social opportunities and its impact on SWB are distributed within the population. A key component of the capability approach is associated with the existence of political, social, cultural and individual endowments constraining individual freedoms (Sen, 1999). According to data available, this study covered the impact of "individual endowments" on CONFIDENCE and TRUST accounting for a set of demographic and socioeconomic variables. Nonetheless, it is necessary to include other potential sources of inequality within the Chilean population such as ethnicity and territory. In order to overcome that limitation, Chapter 7

evaluates well-being differences by territory and ethnicity using a national database.

As in Chapter 5, the design of longitudinal surveys systematically applied over time it is highly recommended. Even though our findings are controlled by time periods, the lack of more precise information by year does not provide conclusive results, except for a clear decline in institutional confidence from 2005 to 2014.

## **6.6 Social Policy Implications**

### **6.6.1 Reinforcing Generalised Trust in Chilean Society**

The insights from this question showed that individuals' life judgements and feelings are connected and significantly influenced by the society in which people live. It was observed that confidence in political institutions and trust in society are all significant predictors of Chileans' SWB.

Nevertheless, a greater generalised trust in Chilean society (TRUST) appears to be the strongest societal aspect influencing people's SWB, rather than institutional trust (CONFIDENCE). That is true accounting for life satisfaction as single SWB indicator, but also for hedonic (HEDOC) and eudaimonic (EUDA) as SWB dimensions.

It was observed that TRUST is positively explained by "most people can be trusted", "the government runs for all people's interests instead of big interests", and "respect for individual human rights nowadays"; however, "the government should take more responsibility to ensure that everyone is provided for" shows a negative impact.

That evidence might indicate that Chilean society values those attributes usually associated with modern societies (Chapter 2, section 2.5). Chileans prefer a society in which individual freedoms and rights are equally respected, instead of stronger normative prescriptions and institutional constraints. Data suggest that a generalised trust increases in a context in which individuals feel free to choose and control their own lives.

Nevertheless, that individual flourishing seems to be possible only when the social environment offers opportunities to feel trusted, respected and safe.

As we see, Chileans' SWB might be positively influenced by increases in their trust in society; nevertheless, a balance between individual freedoms and social norms supporting personal development and social life is required. The latter point could explain why a greater confidence in political institutions has a weaker, but also a positive significant effect than generalised trust on SWB.

Social policies closer to connect Chileans with their society could be the creation of the "transparency Council" and the national service for customers (SERNAC). The first institution promotes a free access to public information, giving to the citizens the opportunity to know what policy decisions are taken and how these could influence their lives. For another hand, SERNAC is an initiative in which people can be legally represented by discrimination or defended against commercial abuses.

### **6.6.2 Understanding Chileans' SWB "in context"**

As mentioned in the previous question, improving SWB data collection is essential to expand our current wisdom; nevertheless, SWB should be understood "in context" because individuals' view on society has a significant influence on how people feel and think about their own lives.

Regarding our findings, life satisfaction as a single SWB indicator as well as hedonic and eudaimonic dimensions are positively impacted by a higher confidence in political institutions and especially by a generalised trust in Chilean society.

Although those conclusions offer a preliminary useful approach highlighting the relevance of context, there are other societal aspects not covered by this dissertation. At the national level, the UNDP report in 2012 found that Chileans' social malaise is mostly explained by feelings of vulnerability in confronting unpredictable situations such as unemployment, illness or assaults, and the lack of opportunities to satisfy basic needs.

At the international level, people's views on society and their association with SWB has involved several contextual aspects. For example, Elchardus and De Keere (2013) measured social malaise in Europe by interpersonal trust ("most people try to take advantage of you"), the degree of satisfaction with society (with the economy, government, democracy) and people's expectations about the future of society ("for most people in the county life is getting worse").

Analysing trust in the government, Dejun (2013) included the level of confidence in political institutions, but also how people evaluate their performance in aspects such as the economy, political corruption, human rights, unemployment, crime, the quality of public services, immigration, ethnic conflict, religious conflict, and environmental problems.

Böhnke (2008) examined the perceived quality of society including as dimensions trust in the effectiveness of social systems (state pension system and social benefits), trust in other people ("most people can be trusted"), tensions (between rich and poor people, management and workers, men and women, old and young people, and different racial and ethnic groups), and quality of public services (health, education, transport, social services and the pension system).

Analysing how social freedom impacts on people's happiness, Brulé and Veenhoven (2014) examined a set of indicators restricting individual's choices in the domains of economic life, political life and private life. Economic freedom involved indicators such as freedom to hold property, earning, operate business, investing, and trade among others internationally. Political freedom included several people's civil liberties such as open public and private discussion, freedom of assembly, demonstration and political organisation, equality law and non-discriminatory judiciary, protection from political terror, free trade unions, business and religion, personal freedoms such as gender equality, property rights, and freedom of movement, choice of residence, marriage and family decisions. Finally, private freedoms account for the existence of laws allowing abortion under specific causes, legal restrictions to interracial, interreligious, or civil

marriage, equality of the sexes and freedom to travel inside and outside of the country.

Even though some of these societal predictors have been included in public opinion national surveys such as the ADIMARK-PUC and UDP surveys, the topics are not systematically covered over time. Moreover, the samples are usually concentrated only in the Capital and are not representative at a national level. Conversely, there is no reference to these topics in those surveys used for social policy design in Chile such as the CASEN and the National Census. In this regard, it is highly recommended to include both indicators about individuals' life perceptions and people's views on their society.

Accounting for the limitations of the national database covering these issues, it is a good way to take advantage of some international databases including more or less systematically, some of the societal predictors mentioned such as the World Happiness Survey, The World Values Survey, The Gallup Poll and the Latin Barometer which mostly focused on Latin American and Caribbean nations.

# Chapter 7: Examining Chileans' Well-being under the Subjective Well-being Capability Approach

## 7.1 Introduction

The main question examined through this chapter is *Do essential capabilities help to explain Chileans' well-being?* Accounting for the Chilean social policy guidelines (MIDEPLAN, 2017) and a longitudinal database available for a Chilean sample between 2006 and 2009 (CASEN PANEL), this chapter understands Chileans' well-being as a multidimensional concept underpinned by some principles of the Subjective Well-being Capability approach (SWC). Under the SWC approach, well-being is underpinned mostly by the capability approach developed by Amartya Sen; however, it also includes people's subjective life perceptions as a substantive component of human well-being (Chapter 2, section, 2.3.6).

Through this chapter, well-being is empirically examined as a latent construct affected by three essential sets of capabilities: "*Being healthy*" (HEALTHY), "*being adequately sheltered*" (SHELTER), and "*having the means to engage in productive and valued activities*" (MEANS). Each one of these sets contains observed variables treated as functionings through which well-being is achieved.

HEALTHY is measured by living free from chronic illness and having a positive health status perception. SHELTER is examined by access to supplies, the material quality of the house and type of house in which people are living. Finally, MEANS includes as functionings having technical or higher education as maximum educational attainment, having relatives and extended networks for finding a job or undertaking a business, individual earnings, having full-time work, savings and subjective socioeconomic status perception.

Using a multilevel confirmatory factor analysis (MCFA) four hypotheses are examined. The first one explores the effects of each set of capabilities on WBEING as a latent high-order construct, expecting positive significant effects on WBEING by all of them. A second hypothesis evaluates a higher impact of MEANS compared to the other two sets. A third hypothesis investigates the associations between the three sets of capabilities, expecting positive significant effects of MEANS on HEALTHY and SHELTER. Finally, a fourth hypothesis examines well-being disparities by individual endowments such as age, sex, ethnicity and territory because these personal attributes have been widely reported as sources of inequality within Chilean population (MIDEPLAN, 2017).

**H7.1:** Having the means to engage in productive and valued activities, being healthy and being adequately sheltered have a positive impact on Chileans' well-being controlled by individual endowments.

**H7.2:** Having the means to engage in productive and valued activities has a higher impact on Chilean well-being than being healthy and adequately sheltered controlled by individual endowments.

**H7.3:** Having the means to engage in productive and valued activities has a positive significant effect on being healthy and adequately sheltered controlled by individual endowments.

**H7.4:** MEANS is negatively affected by being part of a minority ethnic group, being older and being a parent, whereas being a man has a positive effect. SHELTER is negatively impacted by being older and being part of a minority ethnic group. HEALTHY is negatively affected by age and positively by being a man. Positive significant effects across all these capabilities are expected by being in a partnership and living in an urban or metropolitan area and having a stable partner across all the sets of capabilities.

The chapter firstly offers a brief empirical framework supporting the hypotheses from the current evidence in Chile. Secondly, a multilevel analysis is carried out. Then, the main findings are discussed in relation to the existing knowledge. Subsequently, conclusions and limitations of this study are presented. Chapter ends with some social policy implications based on the findings presented.

## **7.2 Empirical Framework**

Several sets of capabilities have been empirically examined by well-being studies focusing on the capability approach. Aspects related to education and healthcare access and material living conditions have been mostly covered by cross-national research (Bérenger and Verdier-Chouchane, 2007; Krishnakumar, 2007; Roche, 2008). Studies based on specific samples have examined an even more extensive number of capabilities. For example, Lelli (2008) also includes social interactions, economic status, cultural activities, working conditions and psychological distress. Similarly, Chiappero (2010) involves social interactions and subjective life perception and Burchardt and Vizard (2011) added physical security, productive values activities, social participation and social life as key capabilities.

Although a broader range of capabilities aims to create a multidimensional well-being analysis, there is a consensus about some capabilities defined as “basics” to achieve human flourishing. In fact and although Amartya Sen refuses to design a list of capabilities, he has declared that having food, shelter and health are basic capabilities to achieve individual well-being (Sen, 1983; 1999).

In the same line, Nussbaum (2003) proposed a list of basic capabilities in which those functionings to satisfy basic human needs are included as essential means to achieve well-being. The relevance of being well sheltered and healthy is empirically noted through the main international well-being measurements supported by the capability approach. (See for example, the Human Development Index (HDI), the Inequality adjusted Human Development Index (IHDI) and the Multidimensional Poverty Index (MPI)).

Through this dissertation, well-being (WBEING) is evaluated as a high-order construct through three basic sets of capabilities. “*Being healthy*”, named as HEALTH (subjective health status perception and being free from chronic illness), “*being adequately sheltered*”, labelled as SHELTER (supplies access, house material and quality) and “*having the means to engage in productive and valued activities*”, or MEANS (having higher education, full-time work, earnings, savings, family and other networks, and subjective socioeconomic status perception).

These three sets of capabilities are considered essential in several studies underpinned by the capability approach (Bérenger and Verdier-Chouchane, 2007; Krishnakumar, 2007; Lelli, 2008; Roche, 2008; Chiappero, 2010; Burchardt and Vizard, 2011). Moreover, national evidence also accounts for those capabilities as core aspects in Chilean social policy focused on well-being promotion.

For the past two decades at least, governmental surveys have systematically collected information on health, living conditions, education, incomes and work to inform well-being policy making (MIDEPLAN, 2017). Accounting for data available, the sets of capabilities examined here are directly related to the topics covered by the Chilean policy.

SHELTER as capability set involves functionings associated with people’s living conditions; indeed, the most popular well-being measures applied at an international level usually contain quality of life indicators. Some examples are the Better Life Index (OECD, 2013), The World Happiness Index (Helliwell et al. 2016) and The Prosperity Index (The Legatum Institute, 2013). Similarly, Chilean social policy has explicitly declared a direct effect of material living conditions on people’s opportunities to achieve a healthy life and harmonious family relationships; (MIDEPLAN 2015). Therefore, a positive effect of SHELTER on WBEING is investigated through the first hypothesis (Section 7.1, H7.1).

HEALTHY as a second capability set is associated with being healthy as one of the most basic functioning to flourish. Similarly to SHELTER, physical and mental health is presented as an essential condition for

achieving well-being in the most relevant international well-being measurements (See more details in APPENDIX 2.3). At a cross-national level, indicators such as life expectancy at birth, mortality rate, malnourished index and public health expenditure are used to analyse this dimension.

In the Chilean case, health is a core dimension for understanding overall well-being (MIDEPLAN, 2017). Health evaluation in Chile is commonly based on public healthcare access and number of medical appointments attended. Other indicators recently taken into account are period of time on waiting lists for an appointment with a specialist, complaints about the quality of healthcare and subjective health status perception. Some of these indicators have been examined through this dissertation, supporting a positive significant effect of HEALTH on WBEING through the first hypothesis (Section 7.1, H7.1).

A third capability set namely MEANS includes a set of functionings understood as resources to engage in productive and valued activities. In the Chilean case, earnings obtained by the main wage-earner are considered the most relevant means. These are the essential sources for satisfying basic needs and functionings for a better quality of life such as access to better schools, permanent access to healthcare services and living in safer places (MIDEPLAN, 2015). Moreover, education and occupation are closely related to incomes when individuals possess higher educational attainment and therefore, have more chances of getting a good job (MIDEPLAN, 2017).

For the last decade, Chilean social policy has established that income, education, and occupation taken together are the main sources of achieving a better quality of life (Núñez and Miranda, 2011; Arellano, J, 2012; Cartagena, 2014). In Amartya Sen's words (1999) these might be the essential functionings for developing capabilities and personal potential and therefore, conditions to achieve SWB. In this regard, WBEING should be positively predicted by MEANS, as is expected by the first hypothesis (Section 7.1, H7.1).

A contribution of this dissertation is to offer a wider approach to the ones used in previous studies to measure MEANS, including having networks to help with finding a job or undertaking a business, having savings, and feeling good about personal socioeconomic status. This work seeks to overcome a reductionist analysis based on the triad mentioned, including the impact of networks, savings and positive socioeconomic status perception as a means to take advantage of some opportunities or create new ones.

Although positive effects of SHELTER, HEALTHY and MEANS are expected on WBEING, a greater impact of the latter is predicted through the second hypothesis (Section 7.1, H7.2). Official national statistics show positive improvements on healthcare access and material housing conditions as a consequence of higher public expenditure in the last 20 years (MIDEPLAN, 2015). In contrast, lower earnings persist in around 70% of Chilean households, constraining poorer people's functionings to achieve to a better life using their incomes as means. Therefore, greater gaps should be found in terms of MEANS rather than SHELTER and HEALTHY, showing much more effect on WBEING by MEANS, instead of the other two sets (Section 7.1, H7.2).

Furthermore, and accounting for MEANS as a key capability set for Chilean people, significant positive effects of MEANS on HEALTHY and SHELTER are also expected. If earning is the most essential means through which Chileans satisfy their basic needs, then shelter and health needs (especially the former) should be positively influenced by higher incomes. These associations are examined through the third hypothesis (Section 7.1, H7.3).

On the other hand and considering well-being disparities within the Chilean population, the concept of "*individual endowments*" shaped by the capability approach is included as control variables on the three sets of capabilities. As previously mentioned in the literature review (Chapter 2, section 2.4.3), individual endowments refer to those personal characteristics that become sources of inequalities for achieve personal well-being. That means that individual's opportunities and freedom to develop their potential

can be restricted by the presence of these attributes. According to the SWC approach, individual endowments contain both fixed characteristics such as sex, age and ethnicity and other identities acquired over life transitions such as getting married or becoming a parent.

Whereas positive psychology suggests that demographic and socioeconomic dimensions are contextual aspects influencing SWB, the capability approach argues that those dimensions are drivers of disparities within societies, having a greater impact on people's opportunities and freedom (Nussbaum and Sen, 1996; Sen, 1999; Nussbaum, 2003; Helliwell et al. 2012). Under that premise, being older, being a woman and being poor should be negative individual attributes constraining people's opportunities to develop their potential and achieve their attainments.

In the Chilean case, some individual characteristics have been shown to be persistent sources of socioeconomic disparities within the population. National official reports broadly inform income disparities differentiated by fixed individual attributes such as sex, age and ethnicity (MIDEPLAN, 2017). National evidence shows lower incomes, and poorer working and living conditions associated with being a woman, younger and older (OECD, 2015; Sautu, 2012; Arriagada, 2010; Atria, 2006). People from minority ethnic groups also report incomes and living conditions lower than the general Chilean population in contrast with the national mean (Figueroa, 2009; Espinoza, 2012; Barozet, 2010; Yopo, 2012; MIDEPLAN, 2017). Health differences by sex have been also reported in national statistics. Although women have a higher life expectancy than men, they also have a higher incidence of chronic illness, mental health problems and a greater use of healthcare services compared with men (MIDEPLAN, 2017).

Regarding well-being disparities by life transitions as individual endowments, the evidence indicates poorer living conditions and incomes in single householders. Particularly, a greater economic vulnerability has been found in households led by women with children and lone older people (MIDEPLAN, 2017). Then, living in a partnership should positively impact on well-being, while a negative effect is expected by being parent.

Additionally, this dissertation examined well-being disparities by geographical variables. Núñez and Miranda (2011) found that income transmission is higher in rural areas and small urban areas than in large urban areas; however, the last case is fairly high in comparison with international evidence. Mac-Clure and Calvó (2013) also discovered unequal socioeconomic differences by territory, finding lower incomes and housing conditions in areas located far away from bigger urban centres and basic services access.

Official data suggest that material living conditions, earnings, and job opportunities are greater in the Capital of Chile compared with the rest of the population except for the extreme Austral area (MIDEPLAN, 2017). Vargas et al. (2016) concluded that people living in the extreme northern and southern regions have greater life satisfaction than the rest of the population. UNDP (2012) pointed out similar conclusions, finding greater life satisfaction in those individuals living in the North of Chile.

Accounting for the evidence mentioned, a fourth hypothesis examines negative effects of being part of a minority ethnic group, being an older person and being a parent on MEANS and SHELTER and a negative one by age on HEALTHY. Conversely, positive effects by being a man are expected on HEALTHY and MEANS as well as living in urban or metropolitan areas and having a stable partner across all the sets of capabilities (Section 7.1, H7.4).

### 7.3 Results

Through a multilevel confirmatory factor analysis (MCFA), the four hypotheses mentioned above are tested. Well-being (WBEING) was accounted as a higher-order construct affected by other three latent variables: “*Being healthy*” (HEALTHY), “*being adequately sheltered*”, (SHELTER) and “*having means to engage in productive and valued activities*” (MEANS). Moreover, the model also includes a set of socio-demographic control variables examining well-being disparities within Chilean population.

Table 7.1 details those variables loaded on HEALTHY, SHELTER and MEANS as capability sets as well as the covariates applied on each one. HEALTHY is measured through two functionings: subjective health status perception (HEALTH) and living free of a chronic illness (ILLNESS). SHELTER includes three functionings: having access to water and sewage (SUPPLY), living in a separate, detached or semi-detached house or flat (HOUSE) and living in a house with acceptable walls, floor and roof material quality (MATERIAL).

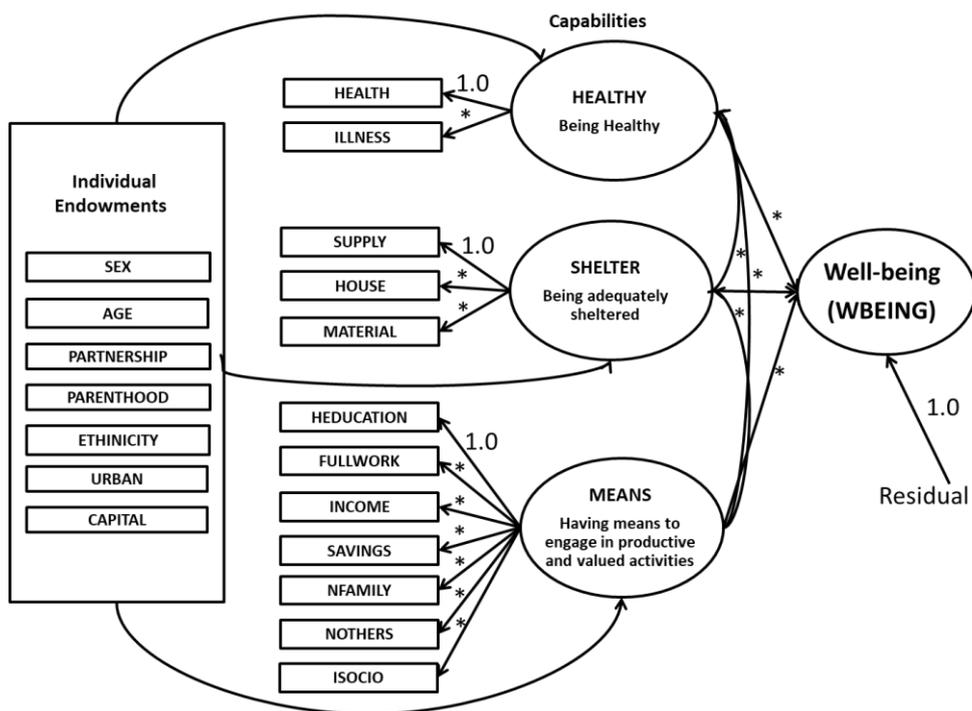
Otherwise, MEANS is examined through seven functionings: having technical or higher education studies (HEDUCATION), having a full-time main occupation (FTIME), logarithm individual earnings (INCOME), having savings (SAVINGS), finding a job or undertaking a business through a family member’s help (NFAMILY), finding a job or undertaking a business through the government, agencies, classmates and colleagues (NOTHERS) and subjective socioeconomic status perception (ISOCIO).

**Table 7.1** List of latent variables and observed variables included in the Multilevel CFA model

Latent variables	Observed variable	Label	Measurement scale**
<b>HEALTHY</b> “Being healthy”	HEALTH	Health status perception.	Ordinal 1 Very good 2 Not poor at all 3 Very poor
	ILLNESS	Free of suffering a chronic illness.	Dummy
<b>SHELTER*</b> “Being adequately sheltered”	SUPPLY	Access to water and sewage services at home.	Dummy
	HOUSE	Separated, detached or semi-detached house or flat.	Dummy
	MATERIAL	Acceptable wall, floor and roof material quality.	Dummy
<b>MEANS</b> “having means to engage in productive and valued activities”	HEDUCATION	Having technical or higher education studies.	Dummy
	FTIME	Having a full time main occupation	Dummy
	INCOME	Logarithm individual earnings.	Logarithm
	SAVING	Having savings.	Dummy
	NFAMILY	Finding a job or undertaking a business through family networks.	Dummy
	NOTHERS	Finding a job or undertaking a business through government, agencies, classmates and colleague networks.	Dummy
	ISOCIO	Subjective socioeconomic status perception.	Ordinal 1=more than enough 2= enough 3= Not enough at all 4= less than enough
<b>Individual Endowments</b>	MAN	Being a man.	Dummy
	AGE	Age in years.	Continuous
	YOUNGER	Aged between 18-35 years old.	Dummy
	OLDER	Aged over 60 years old.	Dummy
	PARTNER	Living with a stable partner.	Dummy
	PARENT	Being a parent.	Dummy
	ETHNICITY	Being part of a minority ethnic group.	Dummy
	URBAN	Living in an urban area.	Dummy
CAPITAL	Living in the Capital of Chile.	Dummy	
<b>CLUSTER</b>	IDPERSON	Unique number assigned for each individual.	Categorical

Source: CASEN PANEL survey, 2006-2009. Observed variables included in SHELTER were recoded following the same method applied by MIDEPLAN. See more details in [http://observatorio.ministeriodesarrollosocial.gob.cl/casen/casen\\_def\\_vivienda.php](http://observatorio.ministeriodesarrollosocial.gob.cl/casen/casen_def_vivienda.php) \*\* See APPENDIX 3.3 for recoding details.

A better visualisation of the interactions between data mentioned in the table above is offered in figure 7.1. WBEING is a high-order construct measured by three sets of capabilities, HEALTHY, SHELTER and MEANS, represented by ovals. Functionings loaded on each set of capabilities are diagrammed by rectangles as well as the control variables or individual endowments applied on HEALTHY, SHELTER and MEANS.



**Figure 7.1** Second-order confirmatory factor analysis testing Chileans well-being by HEALTHY, SHELTER and MEANS as a set of capabilities controlled by key individual endowments. N Clusters=29,497 individuals, N Observations= 64,985. Years 2006-2009.

Table 7.2 shows the findings obtained from the model in the diagram above. Standardised coefficients indicate that all the functionings significantly explain their respective set of capabilities. The results also suggest positive and significant effects of the three capabilities on WBEING as a higher-order variable. This evidence confirms the first hypothesis proposed (Section 7.1, H7.1).

MEANS shows the highest impact on WBEING ( $\beta=0.878$ ,  $p<0.000$ ), followed by HEALTHY ( $\beta=0.217$ ,  $p<0.000$ ) and SHELTER ( $\beta=0.130$ ,  $p<0.000$ ) respectively. The findings also support the second hypothesis (Section 7.1, H7.2) because the most relevant set of capabilities explaining Chileans' well-being is having the means to engage in productive and valuable activities.

The third hypothesis is also confirmed because MEANS has a positive and significant impact on both, HEALTHY ( $\beta=0.219$ ,  $p<0.000$ ) and SHELTER ( $\beta=0.126$ ,  $p<0.000$ ). (Section 6.1, H6.3). Therefore, it should be considered

as an essential capability in national policies promoting Chileans' well-being.

**Table 7.2** Multilevel CFA model predicting well-being by HEALTHY, SHELTER and MEANS

	Coefficient	95% CI
<b>HEALTHY as latent variable on WBEING</b>		
HEALTH	0.413** (0.018)	0.378 - 0.449
ILLNESS	0.231** (0.012)	0.208 - 0.255
<b>SHELTER as latent variable on WBEING</b>		
SUPPLY	0.623** (0.014)	0.487 - 0.760
HOUSE	0.162** (0.009)	0.099 - 0.224
MATERIAL	0.362** (0.009)	0.249 - 0.475
<b>MEANS as latent variable on WBEING</b>		
HEDUCATION	0.619** (0.027)	0.566 - 0.673
FTIME	0.278** (0.020)	0.238 - 0.319
INCOME	0.482** (0.027)	0.429 - 0.536
SAVING	0.195** (0.009)	0.176 - 0.214
NFAMILY	-0.151** (0.013)	-0.176 - -0.125
NOTHERS	0.099** (0.014)	0.071 - 0.127
ISOCIO	0.277** (0.011)	0.255 - 0.299
<b>WBEING BY</b>		
HEALTHY	0.217** (0.062)	0.094 - 0.339
SHELTER	0.130** (0.038)	0.054 - 0.205
MEANS	0.878** (0.253)	0.382 - 0.947
<b>SHELTER ON MEANS</b>	0.126** (0.011)	0.074 - 0.177
<b>HEALTHY ON SHELTER</b>	0.002 <sup>ns</sup> (0.018)	-0.032 - 0.037
<b>HEALTHY ON MEANS</b>	0.219** (0.021)	0.178 - 0.260
<b>Chi square</b>	13629.168 (126 d.f)	
	p<0.0000	
<b>Number clusters</b>	29,497	
<b>N observations</b>	64,985	

CASEN PANEL 2006-2009. STDY coefficients are shown<sup>19</sup>. Significant level at \*\*p<0.05; \*p<0.10, ns=no significant. Standardised errors are shown in brackets. All coefficients show 95% confidence intervals. Estimator= WLSMV<sup>20</sup>. Cluster variable is IDPERSON as number assigned for each individual over waves (APPENDIX 7.1) Fit Statistics were computed by a previous CFA model obtaining an acceptable fit: RMSEA=0.016; CFI=0.912; TLI=0.908 (See more details in Chapter 3). See APPENDIX 7.2 for more details.

An examination by set of capabilities indicates that HEALTHY is mostly explained by good health status perception (HEALTH,  $\beta=0.413$ ,  $p<0.000$ ) rather than the absence of a chronic illness (ILLNESS,  $\beta=0.231$ ,  $p<0.000$ ). Otherwise, SHELTER is most impacted by having access to water and sewage services (SUPPLY,  $\beta=0.623$ ,  $p<0.000$ ), followed by material quality of the house (MATERIAL,  $\beta=0.362$ ,  $p<0.000$ ) and type of house (HOUSE,  $\beta=0.162$ ,  $p<0.000$ ) respectively.

<sup>19</sup> Standardised solution recommended for models with binary covariances (Kelloway, 2015; Mplus User's Guide (2017, pp.800).

<sup>20</sup> Weighted least square parameter estimates using errors and mean- and variance adjusted chi-square test statistic that use a full weight matrix (Mplus User's Guide (2017, pp.668).

As was expected, MEANS is mostly affected by the triad income-education-occupation. Earnings by the main occupation (INCOME,  $\beta=0.482$ ,  $p<0.000$ ) having technical or higher education studies (HEDUCATION,  $\beta=0.619$ ,  $p<0.000$ ) and performing a full-time job (FTIME,  $\beta=0.278$ ,  $p<0.000$ ) are essential functionings of this set. Nevertheless, the inclusion of other functionings shows interesting findings. A good self-perception of the socioeconomic status positively impacts on MEANS (ISOCIO,  $\beta=0.277$ ,  $p<0.000$ ), as well as having savings (SAVINGS,  $\beta=0.195$ ,  $p<0.000$ ).

Otherwise, the use of networks to find a job or to start a business suggests mixed results. Links with governmental institutions, agencies, classmates and colleagues positively impacts on MEANS, (NOTHERS,  $\beta=0.099$ ,  $p<0.000$ ) whereas the use of family networks shows a negative significant effect (NFAMILY,  $\beta=-0.151$ ,  $p<0.000$ ). Potential explanations are discussed though the next section.

Regarding the fourth hypothesis, a set of key control variables were applied on the three sets of capabilities presented above. Table 7.3 details the standardised coefficients measuring the effect of sex, age, ethnicity, partnership, parenthood and territory on HEALTHY, SHELTER and MEANS.

**Table 7.3** Multilevel CFA analysis of the effect of covariates on HEALTHY, SHELTER and MEANS as capability sets on Chileans' well-being

COVARIATES	HEALTHY	SHELTER	MEANS
MALE	0.150** (0.023)	-0.055** (0.022)	0.163** (0.020)
YOUNGER		-0.063 <sup>ns</sup> (0.016)	0.279** (0.022)
OLDER		0.056** (0.021)	-0.322** (0.017)
AGE	-0.027** (0.001)		
ETHNICITY	0.030 <sup>ns</sup> (0.041)	-0.144** (0.035)	-0.167** (0.021)
PARTNER	0.047 <sup>ns</sup> (0.028)	0.043** (0.023)	-0.082** (0.014)
PARENT	0.020 <sup>ns</sup> (0.031)	0.049** (0.020)	0.018 <sup>ns</sup> (0.028)
CAPITAL	0.026 <sup>ns</sup> (0.024)	0.218** (0.054)	0.182** (0.016)
URBAN	0.020 <sup>ns</sup> (0.035)	0.546** (0.116)	0.272** (0.019)

CASEN PANEL 2006-2009. STDY coefficients are shown. Significant level at \*\* $p<0.05$ ; \* $p<0.10$ , ns=no significant. Standardised errors are shown in brackets. All coefficients show 95% confidence intervals. Data shown here have been separated from the model described in Table 7.2 for presentation purposes only. Same fit indices applied. See APPENDIX 7.1 for more details.

As was hypothesised, HEALTHY is positively affected by being a man (MALE,  $\beta=0.150$ ,  $p<0.000$ ), and negatively impacted by age (AGE,  $\beta=-$

0.027,  $p < 0.000$ ). SHELTER is positively explained by living in an urban area (URBAN,  $\beta = 0.546$ ,  $p < 0.000$ ) and the Capital of Chile (CAPITAL,  $\beta = 0.218$ ,  $p < 0.000$ ). MEANS shows positive effects by being a man (MALE,  $\beta = 0.163$ ,  $p < 0.000$ ), younger (YOUNGER,  $\beta = 0.279$ ,  $p < 0.000$ ), living in the metropolitan area (CAPITAL,  $\beta = 0.182$ ,  $p < 0.000$ ) and urban centres (URBAN,  $\beta = 0.272$ ,  $p < 0.000$ ).

The findings also confirm expected negative effects of being part of a minority ethnic group on SHELTER and MEANS (ETHNICITY,  $\beta = -0.144$ ,  $p < 0.000$ ,  $\beta = -0.167$ ,  $p < 0.000$  respectively) and a negative effect of being older on MEANS (OLDER,  $\beta = -0.322$ ,  $p < 0.000$ ). In contrast, the results do not show positive effects of territorial variables on HEALTHY as well as positive impacts of living in a partnership across all the sets as was hypothesised. Possible explanations for these results are discussed in the next section.

## **7.4 Discussion**

The results suggest that MEANS, HEALTHY and SHELTER are significant predictors of Chileans' well-being, supporting the first hypothesis. A greater effect of MEANS on WBEING contrasting with HEALTHY and SHELTER also confirms the second hypothesis. Moreover, positive significant effects of MEANS on HEALTHY and SHELTER underpin the third prediction. Finally, well-being disparities controlled by a set of individual variables on MEANS, HEALTHY and SHELTER give mixed results, partially confirming the fourth hypothesis.

### **7.4.1 MEANS as the Stronger Capability Set**

The findings reinforce the importance of the triad incomes-education-occupation, having higher education studies (HEDUCATION) is the most relevant functioning followed by earnings from the main occupation (INCOME) and having a full-time job (FTIME) respectively.

According to official statistics, earnings obtained from the main occupation are the only source of income for all the Chilean households, excluding those in the first quintile receiving governmental subsidies and the highest

quintile who gain additional income through savings, investments and renting properties (CASEN, 2015). As was reported by international studies, incomes tend to be the most relevant means for understanding well-being in developing and poorer countries; therefore, the importance of this functioning for Chile is consistent with its current development stage (Inglehart and Baker, 2000; Easterlin 2005; UNDP 2014; OECD, 2015).

As correlated variables, having a full-time main occupation and higher educational attainment are relevant functionings for people to engage in productive and valued activities. On one hand, working in a full-time job ensures the satisfaction of basic needs for around 70% of Chilean households (MIDEPLAN, 2017). Indeed, losing a job is the most relevant cause of economic crisis declared by Chileans (CASEN PANEL, 2007-2009) and having complementary incomes and savings are declared by people in the highest quintile only.

Education has usually been analysed as means to get a good job and then, acceptable incomes. Official reports have shown a permanent national trend suggesting that incomes increase when people are more educated (MIDEPLAN, 2017), in spite of some studies that have criticised real education's effectiveness as a means of socioeconomic mobility (see for example, Torche and Wormald, 2004 for negative working conditions and higher professional labour force association; Núñez and Miranda, 2011 for intergenerational educational transmission; and Cartagena, 2014, for a segregated educational system by income). According to the insights, being educated is a functioning most associated with MEANS as latent variable (Section 7.2, Table 7.2); therefore, future social policies focused on generating means and capabilities should consider education as a key functioning.

Going beyond the triad income-education-occupation, this dissertation involved other functionings such as having savings, networks and a positive perception of socioeconomic status. The findings support a positive significant impact of having savings on MEANS, an indicator of enjoying a

good economic status, but also the opportunity to take advantage of positive situations and confronting other negative ones (for example, starting a business, losing a job, an unexpected illness or a family member's death). Despite that savings might be a useful means to "turn-on" other functionings, it is an action restricted only to the highest income quintile. Most Chileans are unable to save money as a safety net for facing unexpected events against personal or family economy. Indeed, some studies have shown that people living with a reduced budget to satisfy their needs are focused on surviving the present; therefore, saving money for unexpected events or later life are unlikely (Constanza, 2007; Cracolici et al. 2012; Halleröd and Seldén, 2013; Binelli et al. 2015).

In fact, the Chilean population has high levels of debt. According to national statistics around 61% of Chileans in the lower income deciles reported being in significant debt (MIDEPLAN, 2015). Moreover, people in debt show lower happiness and life satisfaction levels, reporting problems in their social life and self-esteem (ADIMARK-PUC, 2016). Even worse, recent findings suggest that lower income deciles acquire debts in order to cover basic needs such as food, housing, clothing and health care needs (MIDEPLAN, 2014).

Taking into consideration that feeling financially stressed might negatively impact on overall well-being, a subjective indicator based on self-socioeconomic status perception was also involved. As was expected, MEANS is positively explained by a good socioeconomic status evaluation. Feeling free of financial stress as well as having savings might promote a positive environment to take up opportunities and undertake other significant life assignments.

Finally, the incorporation of the use of networks to find a job or start a business showed a significant effect on MEANS. Interestingly, a positive impact was caused by networks established with governmental institutions, private agencies, classmates, and colleagues, but not by those networks at a family level.

Although “social capital” has been incorporated as a key capability set in some studies working under the capability approach (See more details in APPENDIX 2.3) the presence of this component is missing in Chilean well-being studies. A contribution of this dissertation is to include the existence of networks as a means to engage in productive activities because social capital seems to be highly associated with people’s well-being. For example, closer social networks have shown to be a stronger means to cope with poor living conditions in Latin America (Atria et al. 2003). Moreover, an extensive body of literature highlights the relevance of social networks increasing opportunities to find a job, change jobs or improving current working conditions (Granovetter, 1995; Mouw, 2003; Franzen and Hangartner, 2006; Pellizzari, 2010).

An interesting fact is that those closer networks established with family members have negative impacts on MEANS. A potential explanation might be related to the strength of weak ties proposed by Granovetter (1973) and supported by Filgueira (1999) in Latin American countries later. The rationale behind this is that social relationships with others outside the closer circle can positively impact on current standards of life, because other dissimilar resources are shared. In this regard, it is consistent that extended instead of family networks show a positive significant effect on MEANS.

#### **7.4.2 Being Healthy**

Health is a core dimension in examining well-being in Chile; nevertheless, its measurement has been restricted to access and coverage indicators (MIDEPLAN, 2017). Following the SWC’s principles, being healthy was understood as both a positive health status evaluation and the absence of a chronic illness. As was expected, WBEING is positively explained by HEALTHY.

Through this dissertation, the pertinence of alternative indicators measuring Chileans’ health is reinforced. According to the last social development report around 96% of Chileans have access to public or private healthcare services. Moreover, around 93% of the medical needs were attended to in 2015, improving the national health’s coverage across territories and

prioritising specific social groups through the public system (MIDEPLAN, 2015).

Progressive health expenditure from the last decade has shown relevant improvements on healthcare access and coverage; therefore, it is necessary to include other indicators as sources of health disparities in Chile. This dissertation proposes a starting point involving as key health variables both, a subjective health perception and the absence of a chronic illness as essential functionings for being healthy.

In examining the associations between capabilities, a positive effect of MEANS on HEALTHY was examined through the third hypothesis (Section 7.1, H7.3). These findings are consistent with Chilean evidence showing segregated healthcare access by income. People in the highest quintile mostly access private services while the poorest only use the public system. Moreover, health status perception systematically increases across income quintiles, except for mental illnesses in the richer group (MIDEPLAN, 2015).

#### **7.4.3 Being Adequately Sheltered**

Regarding the Chilean social development guidelines, living conditions are mainly understood as a set of qualitative indicators related to people's material living conditions. For that reason, the model proposed by this work involved key three living conditions indices commonly used by Chilean policy makers to evaluate how people are living. The supplies index (SUPPLY) calculated by type of sewage and water access, the material condition index (MATERIAL) based on wall, floor and roof quality, and the type of house index (HOUSE) considering whether people are living in an acceptable house. Our results indicate that HOUSE, SUPPLY and MATERIAL positively predict SHELTER as a capability set.

Despite all observed variables significantly explaining living conditions, this latent variable shows the lowest effect on WBEING because all the indicators are quite similar within the population. A potential explanation is that a minimum living threshold in Chile has been widely achieved.

According to data from the CASEN survey in 2015, around 68.1% of Chilean families declared the quality of their housing conditions as good and 18.3% as fair, but not poor. Moreover, 96.4% indicate an acceptable basic supplies level considering electricity, sewage and water access.

Despite this positive performance, wider living conditions measurements should be developed in the future, following the international trend. For example, the OECD (2013) collects relevant information on access to basic services available near to people's neighbourhoods such as transport, health care and educational centres, etc. the impact of environment, civic and social engagement and neighbourhood safety has been also aggregated. Further research should thoroughly evaluate the link between living conditions and well-being through new indicators complementing the classical measures.

Examining associations between capabilities, a positive effect of MEANS on SHELTER was expected because supplies access and material housing conditions might depend on the means available in the household (Section 7.1, H7.3). Findings through this chapter confirm that association, similarly to Chilean evidence suggesting lower quality of houses, supplies cut for unpaid bills and overcrowding in the poorest income quintile (MIDEPLAN, 2015).

#### **7.4.4 Capabilities Disparities within the Chilean Population**

According to the fourth hypothesis, the findings support positive effects on MEANS by being a man, living in the metropolitan area and urban centres. A positive impact on HEALTHY by being a man, but a negative impact of age were also found as well as positive effects of living in an urban area and the Capital of Chile on SHELTER. The results here also confirm negative effects of ethnic affiliation on MEANS and SHELTER and a negative one on MEANS by being older. Otherwise, no positive effects of territorial variables on HEALTHY as well as positive impacts of living in a partnership across all the sets support our initial predictions.

An interesting conclusion of our findings is that the effects of these control variables on the three sets of capabilities are not uniform. A control variable understood as a source of well-being disparities shows a simultaneously positive effect on a specific capability set and negative or no effect on others. For example, being a man is a positive personal attribute for HEALTHY and MEANS, but not on SHELTER. Being older positively impacts on SHELTER, but negatively on MEANS and HEALTHY. Living in a partnership only has a negative effect on MEANS, a positive on SHELTER and a no significant impact on HEALTHY. Being part of a minority ethnic group is a negative source of disparities to achieving MEANS and SHELTER but not on HEALTHY.

Some of these results have empirical support. For example, it is widely known that health conditions decrease as a result of natural physical deterioration over time; therefore, that negative association is completely expected (Gadermann and Zumbo, 2007; Ulrich, 2009; Plagnol, 2010) A negative effect of being aged over 60 years on MEANS is also consistent with national evidence. Chilean evidence has detected lower profits and a vulnerable socioeconomic situation in people over 65 years compared with the mid-life population (MIDEPLAN, 2017).

Conversely, being an older person shows a positive effect on SHELTER and a negative effect by being a younger. This could reflect differences in people's life-course. While older people in most cases have formed a home, younger people are still starting their lives. For policy purposes, household programmes might be differentiated, promoting access to a "first house" for the younger population and creating alternatives to improve housing conditions for older people.

Regarding well-being disparities by sex, the results confirm positive effects by being a man on both MEANS and HEALTHY. In the first case, Chilean evidence has shown historical socioeconomic differences between sexes. Comparing people living in extreme poverty, women have a higher representation than men in this group, a similar trend to people in poverty (MIDEPLAN, 2012-2015). Moreover, women evidence lower earnings than

men controlling by age and education level, although the gap between them has slightly decreased over the last decade (see for example, Arriagada 2010; Espinoza, 2012; Espinoza and Núñez, 2014).

In the second case, Chilean men seem to be in better health than women even though life expectancy is higher for women. Evidence suggests that women have a lower subjective health perception, a higher attendance to healthcare services and a greater prevalence of mental problems compared to men (MIDEPLAN, 2017).

Regarding the impact of sex on SHELTER, a negative significant effect was found. Further research is needed to clarify this insight; nevertheless, a higher social expenditure on improving living material conditions of female single households might partially explain this result (Arellano, 2012; MIDEPLAN, 2017).

As was also explored in the last hypothesis (Section 7.1, H7.4), being part of a minority ethnic group has a negative impact on both SHELTER and MEANS. Chilean data have permanently highlighted lower living conditions, incomes and labour market inclusion experienced by indigenous people (MIDEPLAN, 2015). Nonetheless, belonging to any ethnic group shows a positive impact on HEALTHY. Further research needs explore how reliable the application of standard well-being measures is on a social group who are culturally different. For example, the access to basic supplies or the idea of a “proper house” or “a good job” might highly differ in these common indicators measuring living conditions and socioeconomic level on the overall Chilean population.

In order to investigate the impact of some life events over people’s life-course, living in a partnership and being a parent were examined as potential sources of well-being disparities. The findings obtained are mixed, living in a partnership is only negatively significant on MEANS, but it has no effect on HEALTHY and a positive one on SHELTER, whereas parenthood positively predicts SHELTER; however, no effects on the other two sets were observed.

Although living in a partnership has been empirically supported as a positive predictor of life satisfaction and happiness (Chapter 2, section 2.4.1), this chapter does not provide similar results. Instead of a greater economic and emotional support by being in partnership, we found a negative significant impact on MEANS. A possible explanation might be associated with the assumption of new economic responsibilities in the transition from lone/single to married/couple. Indeed, living in partnership is a positive predictor of being adequately sheltered, suggesting that great financial stress might be related to establishing a new home (Dolan et al 2008; Cracolici et al. 2012; Tay et al. 2011).

On the contrary, being a parent shows no significant effects on MEANS and HEALTHY, but has a positive effect on SHELTER. Interestingly some events related to people's life transition such as living in a partnership as well as being a parent have a positive impact on SHELTER, but these life transitions are not clearly associated with the other sets of capabilities. It might be preliminarily hypothesised that people's life events are linked to other kinds of capabilities not examined through this dissertation.

Finally, MEANS and SHELTER are positively impacted by both living in an urban area and living in the Capital of Chile. Similarly, Chilean reports declare more limited supplies access and unsatisfactory quality of houses in rural than in urban areas (MIDEPLAN, 2014). Moreover, people living in the Capital instead of outer regions show higher income, housing and opportunities for finding better jobs than the national average (MIDEPLAN, 2017).

Conversely, unexpected negative impacts of these territorial variables were found on HEALTHY. As official statistics show, both, urban areas and the Capital have a higher number and concentration of healthcare services and medical specialists (MIDEPLAN, 2017); nevertheless our findings highlight that others aspects might influence Chileans' health status beyond "objective improvements" implemented in the Chilean healthcare system.

At the international level, some studies have shown higher life satisfaction in people living in areas located far from bigger cities and their related

problems such as overcrowding, contamination and insecurity (Shields and Weathley Price, 2005; Lelkes, 2006; Ferrer-i-Carbonell and Godwy, 2007). A similar conclusion is given by the UNDP Chilean subjective well-being report (2012) because people living in extreme geographical areas declared a higher life satisfaction than those living in the Capital.

## **7.5 Conclusions and Limitations**

Through this chapter being healthy, being adequately sheltered and having the means to engage in productive and valued activities were confirmed as essential capabilities for achieving well-being in Chile. In particular, the latter capability set was shown to be the strongest well-being predictor, reinforcing the relevance of the triad income-education-occupation, but also the importance of other means such as having savings, social networks and a positive socioeconomic status perception.

Otherwise, being healthy and being sheltered was also shown to have a positive significant impact on Chileans' well-being and positive associations with MEANS as predictor variable. Nevertheless, these three sets of capabilities show variations within the Chilean population when some socio-demographic control variables are applied. Sex measured by being a man is a negative driver of well-being disparities on SHELTER, but not on HEALTHY and MEANS. Being younger negatively impacts on SHELTER but positively on MEANS whereas being an older person has a negative effect on HEALTHY and MEANS but a positive one on SHELTER. Belonging to an ethnic group negatively influences SHELTER and MEANS, but its effect is no significant on HEALTHY.

Regarding the effect of life transition variables, living in a partnership has positive effects on SHELTER, but no impact on HEALTHY and a negative one on MEANS. Being a parent positively impacts on SHELTER, but not on MEANS and HEALTHY. Differences by territory also show the positive effects of living in urban areas or Chile's Capital on SHELTER and MEANS, but no significant effects on HEALTHY.

An interesting overall conclusion is that the effects of those control variables on the three sets of capabilities differ. That means that variables such as sex, age or ethnicity cannot be understood as source of well-being disparities across all people's life domains. As mentioned, the same individual endowment shows a positive effect on a specific capability set and a negative or insignificant effect on other one. Potential impacts of this conclusion for policy purposes are discussed in the last section.

Interestingly, even well-being is discursively recognised as a multidimensional concept by Chilean policy; there are only one-dimensional analyses carried out using data available. It is common to find descriptive analyses for each dimension separately, for example, trends in healthcare access, income distribution over time or changes in labour force patterns, but there is not an attempt to understand them together. In this regard, this work reduces the gap between a multidimensional well-being conceptualisation and its one-dimensional empirical application.

Using a multidimensional method examining well-being as a high-order latent variable a more enriched analysis was carried out. The findings showed that the three sets of capabilities positively impact on well-being; nevertheless, the strongest effect on well-being is having the means to engage in productive and valued activities. Moreover, means also reported a positive significant effect on being healthy and being adequately sheltered.

The evidence above suggests the importance of promoting functionings to achieve MEANS as an essential capability set for Chileans' well-being. For policy purposes, governmental efforts should be focused on reinforcing capabilities rather than using a narrower approach based on exclusively improving people's socioeconomic status through governmental vouchers or subsidies without people's active involvement in putting their functionings in action.

Another advantage of the method applied is that associations between latent variables can be measured. The results obtained indicate that being healthy and being adequately sheltered are positively impacted by having means even controlled by age, sex, ethnicity, parenthood, partnership and territory.

In this regard, social policy design can prioritise specific capabilities and related functionings, according to more accurate and integrated information.

In overall terms, this chapter is pioneering contributing with a multidimensional well-being analysis based on the Subjective Well-being Capability Approach. Although the number of subjective functionings included in the model was limited by data available, our findings suggest that people's self-perceptions are significant functioning in explaining both having means and being healthy.

Whereas the international trend for including SWB components as relevant inputs for policy purposes started in the last decade, (see for example the declaration of Istanbul in 2007; The Commission on the Measurement of Economic Performance and Social Progress, 2009 and The French commission in 2009). Chile is a beginner in this matter as was examined through the literature review chapter (Chapter 2, section 2.5). The inclusion of a wider range of SWB indicators in future national data collection as well as longitudinal surveys promoting long-term well-being analyses over people's life-course are strongly recommended.

In the same line, a limitation of this chapter is also the number of capabilities involved. Even though MEANS, HEALTHY and SHELTER are essential sets covered by the most relevant human development international measures based on the capability approach (Chapter 2, section 2.3.5) there are still not enough to provide a multidimensional well-being approach. For example, some relevant capabilities not covered due to data available are social interactions, political freedom and social participation and safe environments.

As previously mentioned in the literature review (Chapter 2, section, 2.3.5) there is an extensive number of capabilities to be measured at individual and cross-national levels. According to the findings obtained here, functionings related to the existence of social networks as means, positive health and socioeconomic status perception explaining MEANS and HEALTHY should be thoroughly covered in future Chilean data collection.

## **7.6 Social Policy Implications**

### **7.6.1 From Subjective Well-being to Multidimensional Well-being**

Conversely to the previous question based on hedonic and eudaimonic well-being, this chapter's question is focused on a multidimensional well-being analysis incorporating both objective and subjective indicators. The first case includes variables such as earnings, maximum educational attainment achieved and absence of a chronic disease, among others. In contrast, subjective indicators involve people's perceptions of specific aspects of their lives. For this dissertation, health conditions and socioeconomic status were added into a model explaining well-being from a set of capabilities and functionings.

The findings showed that an acceptable health status perception positively impacts on the capability "being healthy" as well as a good socioeconomic status evaluation on the capability "having the means to engage in productive and valued activities". Further research seeking a multidimensional well-being approach should incorporate a broader range of subjective indicators in relation to the most common observed variables historically examined by policy makers at the international level (See Chapter 4, section 4.2).

A review of the evaluation reports for several social programmes published by the DIPRES (2017) in Chile suggests that subjective well-being is often considered as a desirable result of the programmes, but there are not measurements about their real achievement. Table 7.4 details a total of 8 social programmes in which achieving subjective well-being is one of the goals pursued. SWB indicators properly measured by a test, a survey or interviews are highlighted in bond.

**Table 7.4 Social programmes expecting SWB achievements**

<b>Programme</b>	<b>Subjective indicators included</b>
Local community Development (INDAP) “Chile training”(MINEDUC)	Improving quality of life Increasing human capital in women Increasing self-confidence Improving personal recognition in the workplace
Health Primary attention (MINSAL)	Improving self-esteem and confidence for the labour inclusion through a better oral healthcare <b>Improving self-esteem on the personal physical appearance because a better oral healthcare</b>
“Chile Neighbourhoods” (MINVU)	<b>Satisfaction with the place of residence</b> Increasing self-esteem Improving Family climate <b>Promoting better relationships among neighbourhoods</b> <b>Satisfaction with family life</b> <b>Perception of risks and security</b> <b>Satisfaction with housing living conditions</b>
“Training Labour” (FOSIS)	<b>Increasing self-esteem</b> Improving family relationships
“Urban improvements” (Various Departments)	Job satisfaction Improving relationships among neighbours Greater social participation in the community
“Small business” (Various Departments)	Improving social networks <b>Better quality of life</b> Improving self-esteem <b>Greater self-control and autonomy</b>
Local Development programme (MIDEPLAN)	Better family relationships Feeling able to do significant things Increasing links with social groups and community Feeling part of the community
“Householder female programme” (SERNAM)	Increasing women social capital related to a better labour inclusion Increasing links with social groups and community <b>Improving self-esteem</b> <b>Improving mental health</b> Developing positive feelings to work

Prepared by the author based on the list of social programmes reports available in DIPRES, 2017. Social Department responsible of the social programme is shown in brackets.

As it is shown, although the social programmes listed above have SWB indicators as explicit final results, most of them are finally not measured. This evidence highlights the relevance for thinking in more precise measurements, promoting the inclusion of the “subjective aspect” as a relevant component to be accounted in the design and evaluation of some national social programmes.

### **7.6.2 Reinforcing People’s Means for flourishing**

Chileans’ well-being is mostly explained by the capability set “having the means to engage in productive and valued activities” (MEANS) including as functionings: having technical or higher education studies

(HEDUCATION), having a full-time main occupation (FTIME), logarithm of individual earnings (INCOME), having savings (SAVINGS), finding a job or starting a business with family member's help (NFAMILY), finding a job or undertaking a business through government, agencies, classmates and colleagues (NOTHERS) and subjective socioeconomic status perception (ISOCIO).

The findings showed that the most relevant functionings explaining MEANS are HEDUCATION, INCOME and FTIME respectively. This evidence highlights the income-education-occupation triad as a pertinent aim for Chilean social policy from 1990 to the present (Chapter 4, section 4.2). A review of the main social policies in Chile supporting that triad, suggests relevant interventions on these aspects. Additionally to those programmes focused on labour inclusion and training (See Chapter 5, section 5.6) Table 7.5 describes those interventions directly focused on increasing household incomes.

**Table 7.5** Social programmes focused on generating means for achieving a better life

Social Programme	Target Group	Goals	From
“Ethic income” (MIDEPLAN)	Household who are part of the lowest income quintile	Monthly monetary voucher to decrease the number of families living in poverty	2011
“Bridge programme” (MIDEPLAN)		Psychosocial support by families in poverty through a programme for 2 years. Methodology is implemented by a social worker focused on six areas: health, education, family climate, material living conditions, work and incomes.	2002
“Family voucher” (MIDEPLAN)	Unemployed people, people unable to work, and pensioned	Monetary voucher increasing the income level of those who are not working	2010
“Family subsidy” (MIDEPLAN)	People who are in charge of minors, disabled people and in the lowest income quintile	Monthly monetary voucher	2010
“Supply subsidy” (MIDEPLAN)	Families in the lowest income quintile	Supporting the access to water, and sewage for those who are struggling to pay these supplies	2010
“I am undertaking” (FOSIS)	Families in the lowest income quintile	Access to small credits and professional support to undertake a self-employer activity	2002

Prepared by the author based on IPOS reports (2011-2016). Social Department responsible of the programme is shown in brackets.

Additionally, another interesting result indicates that the existence of social networks is a key means to achieving MEANS when these links include a wider range of contacts beyond family and relatives. It was found that finding a job or starting a business using networks such as government, agencies, ex-classmates and colleagues positively impact on MEANS. In contrast, the use of closer networks does in a negative direction. Accounting for this evidence, future social policies promoting social capital should intensify the creation and use of extended or “bridging” social networks, instead of reinforcing close social networks exclusively.

For example, policies focused on labour inclusion and training could include agreements with companies or big workplaces in which people practice their skills and developing new networks. It is highly recommended a greater link between the beneficiaries of each social programme and other actors related to the intervention’s goals. This should complement those closer networks developed between people in similar vulnerable conditions.

### **7.6.3 Going Beyond Basic Sets of Capabilities to Understand Well-being**

The findings obtained through this question are restricted to a set of three basic capabilities, omitting other relevant well-being aspects. As was mentioned in the literature review, there are several lists of capabilities which can be used to operationalise the capability approach (Chapter 2, section 2.3.5). Taking into consideration our findings, it is necessary to know more about other capabilities related to individual, family and social life, social participation, voice and freedom, financial strain, economic status and working conditions.

### **7.6.4 Social Policies Highly Focalising on Capabilities and Priority Groups**

The results also showed differentiated effects of predictors applied to each capability set. Particularly, those predictors were understood as individual attributes constraining or promoting achieving MEANS, HEALTHY and SHELTER. Being a man is a positive predictor of HEALTHY and MEANS, but is a negative predictor of SHELTER. Stronger investments in housing

subsidies for female householders during the last decade might explain that negative association. In contrast, the findings suggest that being a woman constrains functionings to achieving MEANS and feeling HEALTHY.

Being younger positively impacts on HEALTHY and MEANS, but not on SHELTER. Being older is a negative predictor of HEALTHY and MEANS, but it is a positive predictor of SHELTER. Similarly to women, people aged over 60 years require improvements in their opportunities to generate MEANS and increase their health status rather than their material living conditions.

Ethnicity has a significant negative effect on SHELTER and MEANS as well as being older; nevertheless, HEALTHY is not significantly predicted by being from a minority ethnic group. Further research is required to review if those capabilities represent well what it means to be adequately sheltered, healthy and having means under other cultural patterns.

Regarding some family life variables, the results show that living in a partnership has a positive effect on SHELTER, but a negative one on MEANS. Inversely, being a parent is a positive predictor of SHELTER, but it is negative on MEANS. Further more detailed information about families' history is needed in order to clarify their interaction with several capabilities. Finally, living in an urban area and in the Capital of Chile are positive predictors of SHELTER and MEANS; nevertheless no significant effects were found on HEALTHY. This evidence suggests that greater investments in labour and educational opportunities, and living material conditions should be reinforced in rural areas and the regions of Chile.

Although the social programmes previously mentioned do not make distinctions between beneficiaries living in rural versus urban areas, some of them are usually available just in urban centres such as specific helping centres for labour training. Only one social programme focused on giving credits for agricultural activities in rural areas was found (IPOS, 2012). Future social policy should evaluate the pertinence to design specific programmes for those who are living in small rural areas.

# Chapter 8: Guidelines for Policy

## Purposes

This chapter gives some guidelines for policy purposes based on an overview of the findings included in this dissertation. Specific policy implications are offered at the end of each empirical chapter; nevertheless there are three transversal aspects highlight here: the relevance of reinforcing the triad income-education-occupation in the social policy design, the importance of expanding our set of capabilities to understand well-being in Chile and the use of a life-course perspective instead of well-being analyses based on one period of time.

### **8.1 The relevance of reinforcing the triad income-education-occupation**

Chilean social policy has been strongly focused on those means that people do not have for achieving a better life. These means have been reflected in the existence of three basic components: Having income to be able to satisfy basic material needs, being educated to increase the opportunities to get a better job and being employed as basic capability to acquire economic resources and personal development. Therefore, social programmes in Chile are strongly focused on promoting this triad within the lowest income quintile group. Moreover, looking for a more efficient policy, the social programmes are implemented on specific priority groups within the Chilean population such as children aged less than 18 years, unemployed younger people and female-householders and disabled and older people among others (See Chapter 5, table 5.11).

The findings in this dissertation reinforce the relevance of this triad as a basic set of capabilities to achieve well-being in Chile. We found that people belonging to the first and second income quintile reported both lower hedonic and eudaimonic well-being compared with the richest groups. It was also clear that feeling satisfied and happy with the overall life is greater for those who are employed and more educated (Chapter 5). The results also

show that people in the lowest two income quintiles, less educated and unemployed have a lower trust in the Chilean society as a country in which they can be trusted, equally treated and respected (Chapter 6). Finally, the most relevant functionings explaining Chileans' well-being into the capability "having means to engage in productive and valued activities" are related to have an occupation, having an income and higher educational attainments (Chapter 7).

According to the results, Chilean social policy is well focalised using the triad as basic criterions to achieve well-being in Chile; nevertheless some considerations should be accounted. This dissertation found lower subjective well-being and means to engage in productive and valued activities for people in the lowest income quintile, but also in the second one. A review of the most important social programmes implemented in Chile during the last decade reveals that target groups belong to the lowest income quintile, in other words, the poorest people in Chile (Chapter 5, Table 5.11). By contrast, our findings highlight that lower subjective well-being is also reported by no-poor individuals classified in the second income quintile, suggesting that social benefits should be also expand to the lower middle class in Chile. The relationship between personal subjective well-being and individuals 'view on their society shows a similar trend. People in the lowest income quintile, but also in the second one reported both lower confidence in the national institutions and trust in the Chilean society (Chapter 6).

Additionally to a greater coverage of the social policy including the lowest middle class, it is recommended the use of other measures to classify people accounting for their socioeconomic status. To the present, Chile accounts for a multidimensional poverty index (MPI) involving four dimensions: working and social security, housing, education, and health (MIDEPLAN, 2015). That is an effort for measuring poverty beyond income; nevertheless, social policy design still understands people as poor or not according to their income household level. This dissertation suggests that social policy might be better focalised if a more accurate socioeconomic classification

measure is used, such as the MPI which identify people living in socioeconomic vulnerability instead of having lower incomes.

## **8.2 Expanding our set of capabilities to understand Chileans' well-being**

The findings also support the relevance of other aspects to achieve well-being beyond the triad income-education-occupation. We found that overall well-being is positively impacted when people account for linking and bridging networks to get a job or undertaking a business. By contrast, strong links with family members negatively impact on well-being. The results also pointed out the relevance to having savings as a key means to achieve well-being. Further policy guidelines should promote linking and bridging networks instead of closer relationships between people in similar vulnerable conditions (Chapter 7). Moreover, social programmes should promote training for a better management of the household's budgets; especially for the poorest and lower middle classes struggling with financial strain and lacking of means for satisfy their basic needs.

Additionally, our insights support that being a man, younger and living in an urban area and in the Capital of Chile are positive individual endowments for getting means for a better life (Chapter 7). Although Chilean policy is focused on priority groups accounting for age and sex, the territorial aspect is not well addressed. Regarding to this review, there are not systematic programmes especially focused on people living in rural areas or taking into account that Chileans' well-being is higher for those living in the Capital. It is recommendable the inclusion of the place of residence as an unequal driver of well-being, emphasising territorial differences in the social policy design.

Even though our results support the importance of the triad income-education-occupation, future analyses should provide a wider well-being approach, involving other sets of capabilities which are not covered in this dissertation. For example, a more complete SWB study requires of a wider range of hedonic indicators, including negative feeling measures and people's evaluation by life domains such as job satisfaction, family, leisure time and partnership life. Otherwise, other aspects related to eudaimonic

well-being need special attention, for instance, the relevance of the interpersonal relationships, feelings of doing the right and valued things, feeling capable and accomplishment and having opportunities for self-actualisation (Chapter 5).

Exploring Chileans' well-being could be enriched including other functionings related to the three basic capability sets covered in this dissertation (Chapter 7). "Being adequately sheltered" might involve the existence of basic services in the neighbourhood (access to educational centres, healthcare services and transport), opportunities to get involved in the local community (local social organisations), neighbourhood's security and environment (green and recreational areas, cleanliness).

"Being healthy" should include functionings such as the quality of the healthcare service, subjective health status indicators (sleeping well, feeling energised and feeling able to face the challenges that life presents) and the specification between physical and mental illnesses. Finally "having means to engage in productive and valued activities" could be complemented with other functionings coping with financial strain events such as having other material means beyond earnings and having wider networks for tackling with economically stressed situations.

### **8.3 Understanding well-being from a life-course perspective**

Looking for differences within the Chilean population achieving a better life, a set of socio-demographic aspects was examined as control variables on multidimensional SWB and overall well-being. According to data available, this dissertation evaluated how Chileans' well-being is impacted for two events occurred over people life-courses, living in partnership and parenthood.

The findings suggest interesting guidelines for policy purposes. We found that both hedonic and eudaimonic well-being are positively impacted when people are living with a permanent partner, whereas being parent shown a negative effect on both dimensions. Moreover, individual endowments such as being younger, having higher educational attainments and being

employed are positive predictors of hedonic well-being, but they are not for the eudaimonic dimension (Chapter 5).

We also found that people living in partnership declared a higher trust in the Chilean society than those living alone (Chapter 6). That suggests that having a permanent partner is a positive predictor of SWB, but also on how people perceive their environment. The insights also pointed out that being adequately sheltered is positively impacted when people are living in a couple and having children suggesting that the housing policy has been well focalised on a family approach (Chapter 7).

It is relevant to note that during the last decade Chile has experienced an increase of lone-householders composed for people aged over 65 years, a higher inclusion of women in the labour market and a delay of the parenthood (Calvo et al. 2011). These changes certainly carried out effects for the Chilean policy design, which should put special attention on single-householders and families with children. Our own results reinforce a focalised policy on people living alone or in charge of one or more children due to individuals living in a couple or no-parents declare a positive personal well-being, being adequately sheltered and even a greater trust in the society.

Accounting for other individual endowments which shown to be negative predictors on Chileans' well-being, we suggest a greater attention on three groups: lone-householders composed by older people living in the regions of Chile and/or rural areas; single- female householders in charge of one or more children and two-householders families in the lowest two income quintiles in charge of one or more children. Aspects such as occupational status of the householders and number and age of the children should be also matching in order to distribute social benefits efficiently.

Finally, a greater understanding of well-being over people life-courses implies further data collection efforts. Social policy design needs analyses based on longitudinal data and a wider range of potential drivers of well-being. Partnership and parenthood are relevant events over people lives, but additional and more precise information is necessary. For example, events

such as the inclusion in the labour market, unemployment, divorce, being widowed and retirement among others should be included into well-being analyses.

#### **8.4 Improving national data collection for policy purposes**

A relative consensus in favour of applying SWB indicators for policy purposes suggests three main accounts: monitoring progress; informing policy design and policy appraisal. The first account is associated with a permanent measure of SWB to identify fluctuations over time as the effect of societal changes or effects of some policies applied. Measures reporting progress are often questions focused on overall life satisfaction, happiness and meaning and purpose of life (APPENDIX 2.2). The inclusion of these questions might be included with no specific targets because their purpose is purely contextual, informing design so that policies do not negatively affect people's SWB over time (Waldron, 2010; Diener, 2012).

Informing policy design as the second account in contrast to the monitoring process requires more detailed measures based on specific life domains and groups of the population. SWB measures here should focus on specific life aspects and timeframes (Diener, 2012). Finally, the policy appraisal account needs the most detailed SWB measures to evaluate the effectiveness of those policies addressed at improving people's lives. Indicators collected for policy appraisal purposes should offer a single metric to rank several policy options using broader information therefore, the inclusion of SWB indicators measuring a nations' development becomes feasible to apply over time (Waldron, 2010; Dolan and Metcalfe, 2012).

Table 8.1 summarises some questions recommended through the literature review to measure SWB for policy purposes (Waldron 2010, Diener, 2012; Dolan and Metcalfe, 2012; Krueger and Stone, 2014). Monitoring progress on people's well-being should consider information on overall life satisfaction, happiness and meaning of life. Data for informing policy design and policy appraisal requires even more detailed questions on satisfaction and feelings about life domains and mental health.

**Table 8.1** Recommended measures of SWB for policy purposes

	<b>Monitoring progress</b>	<b>Informing policy design</b>	<b>Policy appraisal</b>
<b>Evaluative</b>	Life satisfaction on a 0–10 scale, where 0 is not satisfied at all, and 10 is completely satisfied e.g. “Overall, how satisfied are you with your life nowadays?”	Life satisfaction plus domain satisfactions (0–10) e.g. “How satisfied are you with: your personal relationships; your physical health; your mental well-being; your work situation; your financial situation; the area where you live; the time you have to do things you like doing; the well-being of your children, etc”.	Life satisfaction plus domain satisfactions.  Then ‘sub-domains’ e.g. different aspects of the area where you live.  Plus satisfaction with services, such as GP, hospital or local Council.
<b>Affective</b>	Affect over a short period from 0 to 10, where 0 is not at all and 10 is completely e.g. “Overall, how happy did you feel yesterday?”  “Overall, how worried did you feel yesterday?”	Experiences and emotions associated with particular life aspects. e.g. “Overall, how happy do you feel with: your personal relationships; your physical health; your mental wellbeing; your work situation; your financial situation; the area where you live; the time you have to do things you like doing, etc”.	Happiness and worry.  Then detailed account of affect associated with particular activities.  Plus ‘intrusive thoughts’ e.g. money worries in the financial domain over specified time.
<b>Eudaimonic</b>	‘Worthwhileness’ of thing in life on a 0–10 scale, where 0 is not at all worthwhile and 10 is completely worthwhile. e.g. “Overall, how worthwhile are the things that you do in your life”.	Questions based on protective factors affecting people’s mental health. e.g. “Would you describe yourself as a resilient person?” “Do you feel connected with others”	Overall worthwhileness of things life and factors affecting people’s mental health.  Then worthwhileness (purpose and meaning) associated with specific activities.

Source: Adapted from Waldron (2010, pp.10); Dolan and Metcalfe (2012 pp. 421-422).

Table 8.2 shows the availability and coverage of the indicators detailed above in the most relevant Chilean official databases. There are three surveys applied on representative samples at a national level collecting one or more SWB indicators: The National Socioeconomic Characterisation survey (CASEN) applied from 1990 to 2015; the National Socioeconomic Characterisation Panel survey (CASEN PANEL) collected in four waves

from 2006 to 2009 and the Quality of Life and Health Survey (ENCAVI) applied in 2003, 2009 and 2015.

**Table 8.2** SWB indicators for policy purposes collected for official social surveys in Chile

Database	Indicator	Data	Purpose*
National	Overall life satisfaction	2011	MP
Socioeconomic Characterisation (CASEN) <sup>21</sup>	(Scale 1 completely unsatisfied to 10 completely satisfied)	2013	
	Health status satisfaction	2000	IP
	(Scale 1 very poor and 7 very good)	2003	
		2009	
		2011	
		2013	
		2015	
National Socioeconomic Characterisation (CASEN PANEL) <sup>22</sup>	Health status satisfaction	2007	IP
	(Scale 1 very poor and 5 very good)	2008	
		2009	
	Socioeconomic status satisfaction	2007	IP
	(Scale 1 very good and 4 very poor)	2008	
		2009	
Quality of Life and Health Survey (ENCAVI) <sup>23</sup>	Overall life satisfaction	2003	MP
	(Scale 1 very poor and 7 very good)	2009	
		2015	
	Health status satisfaction	2009	IP
	(Scale 1 very good 5 very poor)	2015	
	Overall happiness	2015	MP
	(Scale 1 very happy to 4 unhappy)		
	Overall quality of life perception	2015	MP
	(Scale 1 very poor to 5 very good)		
	Feelings by life domains	2015	IP
	(Scale 1 very poor to 7 very good)		
	Private life; money at home; psychical health, mental health; partnership; leisure time; family life; work and sexual life.		

Source: Prepared by author. Review based on official Chilean surveys applied on representative sample at the national level. \***Monitoring progress (MP), informing policy design (IP).**

In general, Chilean SWB indicators are mostly focused on questions on life satisfaction rather than feelings or psychological well-being, except for the ENCAVI survey which also includes feelings of happiness in the last period. The CASEN survey applied in Chile from 1990 only contains information on life satisfaction to 2011 and 2013, omitting the period 2015, contrary to the health status evaluation which is systematically collected from 2000 at the present.

<sup>21</sup> See details in [http://observatorio.ministeriodesarrollosocial.gob.cl/casen/casen\\_obj.php](http://observatorio.ministeriodesarrollosocial.gob.cl/casen/casen_obj.php)

<sup>22</sup> See details in [http://observatorio.ministeriodesarrollosocial.gob.cl/enc\\_panel.php](http://observatorio.ministeriodesarrollosocial.gob.cl/enc_panel.php)

<sup>23</sup> See details in <http://epi.minsal.cl/lanzamiento-base-encavi/>

CASEN PANEL is the only longitudinal survey applied on a representative sample of the national population; however its application stopped in 2010 and no more than four waves from 2006 to 2009 were collected. Although only two evaluative SWB indicators on specific life domains were included in the CASEN PANEL, its longitudinal nature allowed more accurate findings than cross-sectional surveys. In this regard, it is highly recommended for future national data collection that the design of a longitudinal survey covers a wide range of SWB indicators.

Perhaps, the ENCAVI survey offers the most complete SWB data collection in the Chilean case; broadly covering people's life aspects in its last application. For example, it is a unique instrument in collecting both evaluative and affective SWB dimensions, considering global and specific life aspects. This evidence shows a strong association between subjective well-being and health indicators in the national data collection design. Indeed, ENCAVI is a survey in charge of the National Ministry of Health and as the table above details; health status evaluation is the only specific SWB indicator collected through all the surveys mentioned.

In comparing Chilean SWB data with those measures recommended as essential for policy purposes (Table 8.2), some limitations are highlighted. Firstly, the affective SWB component is almost missing, being collected only recently by the ENCAVI survey in 2015. Secondly, other life domains evaluations going beyond health or socioeconomic aspects need more attention in future surveys, especially in the CASEN which is the most used source for the design and monitoring of Chilean social policies. Finally, the eudaimonic component is completely omitted, revealing that Chile has progressed in SWB data collection, but is still insufficient contrasting with those international recommendations mentioned.

At present, data available in Chile allow a monitoring process based on overall life satisfaction and informing policies mostly focused on health. Policy appraisal does not take into consideration that SWB indicators are an emergent issue on Chileans' survey designs. A large number and type of SWB indicators need to be covered in the future, putting special attention on

their design and periodicity in order to ensure a reliable monitoring process over time.

Contrary to those governmental sources mentioned, a few independent public opinion surveys developed by research centres in Chile have collected a little more information regarding Chileans' SWB. Because a national representative sample is calculated, two initiatives are highlighted. "The Bicentennial Survey" (ADIMARK-PUC)<sup>24</sup> annually applied from 2016 onwards for the Chilean Catholic University (PUC) and the international research marketing company (ADIMARK), and "The National Public Opinion Survey" designed by the University Diego Portales from 2005 to the present (UDP)<sup>25</sup>. Table 8.3 details those SWB indicators through these independent national surveys.

**Table 8.3** SWB indicators for policy purposes collected by public opinion surveys in Chile

Database	Indicator	Data	Purpose*
The Bicentennial survey" (ADIMARK-PUC)	Life satisfaction by domains:	2006	IP
	Partnership, Relationship with your children, Relationship with your parents, Leisure time, Financial situation, Friendship, Health conditions, Physical appearance, Time spent with family, Your mood, Time spent by yourself.	2010 2012	
	<i>(Scale 1 very unsatisfied to 7 very satisfied)</i>		
	Job satisfaction by domains:	2006	IP
	Salary, Workdays, Work environment, Training opportunities, Relationship with superiors, Stability and security, Personal development achieved, Recognition for your performance.		
	<i>(Scale 1 very unsatisfied to 7 very satisfied)</i>		
	Overall happiness	2012	MP
	<i>(Scale 1 very happy to 5 very unhappy)</i>		
	Overall happiness today	2006	MP
	Overall happiness two years ago Overall happiness five years ago <i>(Scale 1 before I was happier to 5 I am happier now)</i>		
The National Public opinion survey (UDP)	I feel overwhelmed by my debts	2006	IP
	I feel happy with my living conditions	2012	
	I am happy with my neighbourhood		
	I enjoy my time working or studying		
	<i>(Scale 1 very agree to 5 very disagree)</i>		
	Overall life satisfaction <i>(Scale 1 completely unsatisfied and 10 completely satisfied)</i>	2005- 2009 2013	MP
Life satisfaction by domains:	2005-	IP	

<sup>24</sup> See details in <http://encuestabicentenario.uc.cl/>

<sup>25</sup> See details in <http://encuesta.udp.cl/>

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Work, leisure time, Partnership, Sexual life,	2009
Financial situation in the past, Financial situation compared with parents, Financial situation in the present, Expected financial situation in the next years, Health, Educational attainment, Friendship, Family relationships.	2013

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*(Scale 1 completely unsatisfied and 10 completely satisfied)*

Source: Prepared by the author based on methodological notes for ADIMARK-PUC and UDP surveys. \***Monitoring progress (MP), informing policy design (IP).**

Although both surveys offer more information on evaluative and affective SWB dimensions than the official Chilean databases, these have several methodological problems. First, both instruments aim to analyse Chilean society's perceptions on contingent topics, therefore, the sections included depend on contingency and political relevance in a specific time frame. That means that data are not systematically collected, making it difficult to observe trends over time. Second, comparative analyses cannot be carried out because questions change their formulation or timeframe, making them less reliable. Finally, even though both surveys are applied to representative national samples, analyses clustering more specific territorial variables such as regions or rural/urban areas are not recommended because data are collected mostly on the Capital and urban areas.

Similarly to those official national surveys analysed, UDP and ADIMARK-PUC surveys do not include eudaimonic indicators or detailed information by domains for policy appraisals. Although a large number of affective indicators and the use of several timescales asking for states of happiness are remarkable, these databases are still insufficient to undertake a wider subjective well-being research.

Searching for evaluating the current national data collection, our review was extended to the international level, finding three surveys including both hedonic and eudaimonic SWB indicators, a systematic collection of them over time and the inclusion of Chile as part of their samples. The Gallup World Poll (GWP)<sup>26</sup> the World Values Survey (WVS)<sup>27</sup> and the Latin

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<sup>26</sup> See more details in <http://analytics.gallup.com/213704/world-poll.aspx>

<sup>27</sup> See more details in <http://www.worldvaluessurvey.org/wvs.jsp>

Barometer Survey (LB)<sup>28</sup>. Table 8.4 shows information available for the Chilean case in those international databases.

**Table 8.4** SWB indicators for policy purposes collected for international surveys including Chilean Data.

Database	Indicator	Years
<b>Gallup World Poll (GWP)</b>		
Overall Evaluative	The ladder life scale satisfaction thinking today.	2006-2016
	The ladder life scale satisfaction thinking on the next five years. <i>(Scale 0 completely unsatisfied to 10 completely satisfied)</i>	
Evaluative by domains	“The city or area where you live is a perfect place for you Your physical health is near to perfect”. <i>(Scale 1 Strongly disagree to 5 Strongly agree)</i>	2013-2015
	“Did you experience the following feelings during a lot of the day yesterday?”. Anger, Sadness, Stress, Worry, Enjoyment, Smile or Laugh. <i>(Scale 1 yes and 2 No)</i>	2006-2016
Overall Affective	The negative experience index .	2006-2016
	The positive experience Index. (measures of the experiences of well-being one day before the survey)	
Affective by domains	“In the last 7 days, have you worried about money?”.	2013-2015
	“In the last 7 days have you felt active and productive every day?”.	
	“Friends and family give you positive energy every day”. <i>(Scale 1 Strongly disagree to 5 Strongly agree)</i>	
Eudaimonic	“Did you learn or do something interesting yesterday?”.	2006-2016
	“You learn or do something interesting every day”.	2013-2015
	“You like what you do every day”.	
	“Were you treated with respect all day yesterday?”.	
	“Someone in your life always encourages you to be healthy”.	
	“You have enough money to do everything that you want to do”.	
	“In the last 12 months, you have received recognition for helping to improve the city or area where you live”. <i>(Scale 1 Strongly disagree to 5 Strongly agree)</i>	
	Global community well-being index (includes linking where you live, feeling safe and having pride in your community)	2013-2015
	Global financial well-being index (includes managing your economic life to reduce stress and increase security)	
	Global physical well-being index (includes having good health and enough energy to get things done daily)	
Global purpose well-being index (includes liking what you do each day and being motivated to achieve your goals)		
Global social well-being (includes having supportive relationships and love in your life)		
Global well-being index (percentage of resident thriving in three or more of the five elements of well-being		

<sup>28</sup> See more details in [www.latinobarometro.org/](http://www.latinobarometro.org/)

<b>The World Values Survey (WVS)*</b>		
Overall Evaluative	Overall life satisfaction (Scale 0 dissatisfied to 10 satisfied)	Wave 2 to 6
Evaluative by domains	Satisfaction with financial situation of household (Scale 0 dissatisfied to 10 satisfied) Health status perception (Scale 1 very good to 5 very poor) How important in your life are Family, Friends, Leisure time, Politics, Work, Religion. (Scale 1 very important to 4 not at all important)	Wave 2 to 6
Overall Affective	Overall happiness (Scale 1 very happy to 4 not at all happy)	Wave 2 to 6
Eudaimonic	“How much freedom of choice and control”. (Scale 1 not at all to 10 a great deal) “Thinking about meaning and purpose of life”. (Scale 1 often to 4 never) “I see myself as member of my local community”. “I see myself as an autonomous individual”. (Scale 1 strongly disagree to 4 strongly agree)	Wave 5 to 6
<b>Latin Barometer (LB)</b>		
Overall Evaluative	Overall life satisfaction (Scale 1 very satisfied to 4 not very satisfied)	1997 2000-2011 2013, 2015
Evaluative by domains	Free time satisfaction (Scale 1 very satisfied to 4 not very satisfied) Current financial situation perception (Scale 1 very good to 5 very poor) Past personal financial situation Future personal financial situation (Scale 1 better to 3 worse than 12 months ago) Scale poor-rich in the present (Scale 1 poorest to 10 richest)  Life satisfaction by domains Neighbourhood, public safety in your neighbourhood, standard of living, own living conditions, friends living conditions and expected living conditions (Scale 0 dissatisfied to 10 satisfied)	2007  1995-2006 2008-2015 1995-2015  2000,2004 2006-2011 2013  2007
Negative affects	“I frequently feel lonely”. “Life is so complicated that sometimes I feel I’m not going to make it”. “Sometimes I feel that I’m a failure”. (Scale 1 strongly agree to 4 strongly disagree)	2007
Eudaimonic	“In general, my life is what I think it has to be”. “I can do something about most problems”. (Scale 1 strongly agree to 4 strongly disagree)	2007

Source: Prepared by the author based on data available for Chile.\*wave 2: 1989-1993; wave 3: 1994-1998; wave 4:1999-2004; wave 5: 2005-2009; wave 6: 2010-2014.

As Table 8.4 shows, the GWP contains a broader range of SWB indicators, covering a large number of periods for those global measures. Instead, specific life domains and eudaimonic indicators have only been collected from 2013 at the last available period in 2015. In contrast, the WVS

involves a lower range of questions than the GWP; however, the timeframe covered is considerably higher, allowing for better analysis focused on SWB variations over time. For example, overall life satisfaction, happiness and a few specific domains and eudaimonic indicators are available for Chile through 5 waves, covering the period from 1990 to 2012. Finally, the LB offers enriched information on the evaluative component, covering more than 10 years; however both, affective and eudaimonic information has been collected for one year only.

Beyond SWB questions available in national and international databases, there are some methodological concerns which should be accounted for future data collection in Chile. Concerns about the validity and comparability of questions measuring SWB are widely mentioned in the literature. Although the typical questions “*Taking all things together, how happy are you?*” and “*Taking all things together, how satisfied with your life are you?*” have been shown to be well-correlated with health outcomes and biological processes such as level of cortisol and brain activity, the interpretation of the SWB questions is very sensitive to past and present experiences (Durayappah, 2011), cultural background, genetic factors and the immediate context (Layard, 2010; Krueger and Stones, 2014).

Diener et al. (1999) give a clear summary of some theories that might explain why the measure of SWB is a complex issue. On one hand, *social comparison theory* suggests that individuals compare themselves to others as standard to evaluate their own SWB. On the other hand, *the adaptation perspective* proposes that people are able to adjust their current experiences and unexpected life events with their life satisfaction. Finally, the *aspirational approach* suggests that SWB changes over people’s life-course to the extent that they achieve their goals. A common point through these theories is that SWB varies over time, adding a complexity to its measurement.

The *social comparisons perspective* suggests that people judge their own lives in contrast to their neighbours and co-workers therefore, how satisfied people are depends on how other relatives feel or what they are doing.

Perhaps, at the individual level, the strongest association between people's life satisfaction and relative income (income compared with other relatives) rather than absolute income (national mean per capita income) is robust evidence showing the importance of SWB measures by groups of interest and not only on the overall population (Diener et al. 1999; Graham and Felton, 2006; Diener, 2012). That is the reason for including people's evaluations of their personal financial situation compared with their parents or living conditions contrasted with their friends and neighbours (See for example Latin barometer, Table 8.4).

The *adaptation theory* explicitly considers that people experience negative events over their lives; nevertheless, they are able to adapt to the circumstances and come back to their habitual "*set point*" in a short time (Kammann 1983; Lykken and Tellegen 1996; Diener et al. 1999; Easterlin 2003). By contrast, the current research has found that some life events such as being widowed or unemployed might mean it takes a long time to achieve a set point (Diener et al. 2006; Lucas, 2007; Clark et al. 2008; Angeles 2009; Plagnol, 2010) therefore, adaptation ability should not be overestimated. Further research should illuminate how SWB varies according to several individual responses confronting negative experiences and unexpected events over life courses. In this regard, systematic SWB data collection over time and preferably longitudinal surveys are needed.

Finally, the *aspirational approach* suggests that people are also able to change their own expectations and goals over time. Initially, researchers argued that modest aspirations lead to higher SWB because failures in great aspirations were avoided. In contrast, other researchers suggest that even more important than achieving an aspiration is the process experienced in attaining it (See Diener et al. 1999 for a review). In this case, measurements focused on how people change their aspirations and goals affecting their SWB, which requires a complex set of questions and long-term data collection.

According to the above, the temporal dimension might affect people's SWB because it is not an invariant phenomenon, changing over their life-course

and even fluctuating in short time periods. In this regard, some methodological recommendations are commonly mentioned in the literature focused on SWB measurements. One of the most relevant is the importance of measuring each one of the SWB components, involving evaluative, eudaimonic, and positive and negative experiences indicators (Nieboer, 2005; Helliwell and Barrington-Leigh, 2010; Hicks et al. 2013; Krueger and Stone; 2014).

In order to promote national and cross-national studies, some recommendations have been suggested as essential SWB measures. Firstly, questions should measure SWB components separately, including evaluative, affective and eudaimonic measures. Although measures of happiness or life satisfaction are the most common single-measures in the majority of national surveys, researchers reinforce the importance of going beyond these SWB measurements also involving eudaimonic aspects (Waldron, 2010; Diener, 2012; Dolan and Metcalfe, 2012).

Secondly, SWB is a dynamic process influenced by both, societal and individual life events; therefore, questions should be clearly directed, giving a timeframe comparable across data collection processes. In particular, questions based on people's experiences are more sensitive to the temporal dimension than evaluative or eudaimonic indicators (Dolan and Metcalfe, 2012). That point might explain why overall happiness is asked considering several moments such as happiness in the past 2 or 5 years, yesterday, today, etc. (See for example, ADIMARK-PUC, 2016 survey and World Gallup Poll, 2009).

Thirdly, the inclusion of SWB measures for policy purposes should be a gradual process, going from a basic set of questions to others based on specific people's life aspects such as work, family, neighbourhood, etc. For monitoring progress, questions on overall life satisfaction, feelings of happiness and worries, and meaning and purpose of life evaluation might be sufficient. Informing policy design requires life satisfaction questions by domains (such as personal relationships, work, and place of residence) and a more extensive list of moods measuring people's experiences. Finally,

policy appraisal demands even more detailed information, for example on life satisfaction by domains and then sub-domains or experiences associated with particular activities or life events.

Table 8.5 summaries a list of specific aims and actions that future social policy design should take into account according to the findings obtained in this dissertation.

**Table 8.5** List of suggested line for social policy design focused on promoting Chileans' well-being.

Aims	Suggested lines
Promoting means to engage in productive and valued activities	<ul style="list-style-type: none"> <li>• Expand social benefits to people in the second income quintile.</li> <li>• Use the multidimensional poverty index (MPI) as socioeconomic classification instead of measures based on household income only.</li> <li>• Promote linking and bridging networks as a relevant means to engage in productive and valued activities, for example, supporting labour inclusion and training in different workplaces.</li> <li>• Promote training for a better management of the household's budgets, especially for people living in poverty and struggling with financial strain.</li> </ul>
Targeting priority groups for social policy design	<ul style="list-style-type: none"> <li>• Inclusion of the place of residence as an unequal driver of well-being, emphasising benefits for those living in rural areas and regions of Chile.</li> <li>• Emphasis on lone-householders composed by older people; single-female householders in charge of children; two-householders families in the lowest two income quintiles in charge of children.</li> <li>• Improve the distribution of social benefits accounting for occupational householders' status, marital status, and family structure.</li> </ul>
Promoting functioning well instead of feeling good	<ul style="list-style-type: none"> <li>• Beyond pleasurable experiences, social programmes should promote activities in which economically vulnerable people achieve skills to reach their personal well-being such as having goals and making effort to reach them, keeping an internal focus of control for coping with personal and family crises, improving their interpersonal relationships, autonomy and competency skills etc.</li> </ul>
Reinforcing institutional confidence and generalised trust in Chilean society	<ul style="list-style-type: none"> <li>• Increasing people trust is directly associated with ensuring material living condition firstly. Lower trust was found in people in the lowest two income quintiles, less educated and being unemployed.</li> <li>• Social policies should balance a normative framework in which individuals are also able to choose and control their own lives. Social programmes should account for a high people engagement in the making decision.</li> <li>• Confidence in the national institutions is negatively perceived by younger people in the lowest income quintile, whereas is positively impacted by being older and being in the highest income quintile.</li> </ul>

Measuring SWB as a desirable social policy outcome.	<p>Social policies looking for a great political engagement of the citizens should especially focus on the poorest and youngest groups.</p> <ul style="list-style-type: none"> <li>• Some Chileans' programmes search a greater health status involving SWB indicators as relevant achievements; however SWB is not monitored as an objective/monetary outcome, losing their importance in the policy design and evaluation. Further actions are needed for generating methods measuring the impact of the programmes on people's SWB.</li> </ul>
Gradually improving the collection of SWB indicators	<ul style="list-style-type: none"> <li>• Gradual data collection process from basic overall questions (life satisfaction and happiness) to others by specific life aspects (life satisfaction by domains, negative affections and positive feelings).</li> <li>• Adding questions measuring eudaimonic dimension and not only the hedonic aspect.</li> <li>• Overall questions for monitoring progress using the same timeframe for comparisons over time.</li> </ul>

In conclusion, there are six suggested guidelines for Chilean policy design. First, Chilean policy design should promote means to engage in productive and valued activities expanding the social benefits to people in the second income quintile, promoting linking and bridging networks for the most vulnerable groups and providing training for coping with financial strain events. Second, it is recommended a better targeting of the priority groups, including other potential drivers of well-being inequalities such as place of residence, family structure and socioeconomic household composition. Third, social policy should seek and monitoring the impact of the social programmes on people SWB beyond happiness or life satisfaction exclusively. Fourth, social policy should account for a high people engagement in the making decisions, emphasising on the poorest and youngest groups. Fifth, SWB should be monitored as an objective and desirable outcome, reinforcing its importance in the policy design and evaluation. Finally, well-being data collection needs gradual improvements, including a wider range of SWB questions with same timeframes over time and beyond the hedonic dimension.

# Chapter 9: Conclusions and Further Research

This final chapter firstly provides a summary of the main conclusions obtained from the empirical chapters 5, 6 and 7. Secondly the main theoretical and methodological contributions are remarked. Finally, and accounting for some limitations observed in this dissertation, some further research lines are also proposed.

## 9.1 Overall Conclusions

### 9.1.1 RQ1: Are hedonic and eudaimonic distinctive components of Chileans' subjective well-being?

Through this first research question, four hypotheses were examined using a second-order CFA model. Firstly, it was expected that hedonic and eudaimonic were correlated, but also differentiated components of Chileans' subjective well-being. Secondly, a greater effect of eudaimonic well-being on Chileans' subjective well-being than the hedonic component was predicted. Thirdly, a positive effect on hedonic well-being caused by being younger, educated, living in a partnership and having higher incomes and negative impacts caused by being older, retired, unemployed and having lower incomes was expected. Otherwise, eudaimonic well-being should positively be affected by being older, being educated, having a higher income and negatively by being unemployed, retired and having lower incomes. Finally, a fourth hypothesis expected no significant effects of time on eudaimonic well-being controlling by other socio-demographic variables.

The findings support the first and second hypotheses, while the latter two are only partially demonstrated. The results indicate that hedonic and eudaimonic are two distinctive dimensions of subjective well-being. Life satisfaction and happiness fit well in explaining hedonic well-being, whereas freedom of choice and control and meaning and purpose of life

explain eudaimonic well-being. Data also show that hedonic and eudaimonic components are different, but overlapped subjective well-being dimensions, in line with international studies in which higher correlations have been found (Waterman, 1993, Vanhoutte, 2013).

Through our results, a greater effect of eudaimonic rather than hedonic well-being on Chileans' subjective well-being was also observed, supporting the second hypothesis. In other words, Chileans' subjective well-being is mostly explained by functioning well to reach the maximum human potential rather than feeling good and achieving pleasurable experiences and positive emotions.

Regarding the third hypothesis, some expected outcomes are supported by our results while others are not. In order to identify some predictors of hedonic and eudaimonic well-being, a set of individual characteristics were examined. The predictors involved were age, sex, marital status, parenthood, maximum educational attainment, income quintile classification and occupational status. The findings indicate that hedonic well-being is positively affected by aged between 18 and 29 years old, whereas eudaimonic well-being is positively influenced by being aged over 60. Sex showed no significant effects on both dimensions.

As was expected, having higher education studies is a positive predictor of hedonic, but not of eudaimonic well-being. The results suggest that education is an effective means to feeling satisfied and happier, but a greater psychological well-being depends on predictors which are not directly associated with educational attainment. Similarly, being retired or unemployed have a negative impact on hedonic, but no effects on eudaimonic well-being.

Conversely, income quintile classification, being a parent and living in a partnership showed similar effects on both dimensions. Belonging to the highest two income quintiles has a positive effect on hedonic and eudaimonic well-being instead of a negative impact by being part of the lowest two quintiles. Being parent also indicated a negative effect on

hedonic and eudaimonic dimensions whereas living with a stable partner showed a positive impact on both.

Regarding the fourth hypothesis, the findings partially confirmed no significant time effects on eudaimonic well-being except for the period from 1999 to 2004. On the contrary, the hedonic component is positively influenced by time over all periods covered. Data suggest that the eudaimonic dimension is mostly affected by specific life events over people's life-course rather than the time by itself.

The findings described here support the pertinence of measuring Chileans' subjective well-being accounting for hedonic and eudaimonic as distinctive dimensions. Although there are correlated dimensions, their impact in explaining Chileans' well-being is differentiated. On one hand, eudaimonic well-being showed a greater effect on subjective well-being than hedonic well-being and on the other hand; the same predictor has a different effect on subjective well-being depending on the dimension affected. These results highlight the need to undertake national studies beyond a hedonic perspective. According to the literature review, studies underpinned by a eudaimonic approach are still missing in Chile; therefore, further research should emphasise this aspect.

Finally, significant dissimilarities on the effect of individual features on hedonic and eudaimonic well-being give relevant insights for policy purposes. Whereas it is quite clear that belonging to the lowest income quintiles and being a parent have a negative effect on both dimensions, the effects of age, sex, education and occupation status are not similar over hedonic and eudaimonic dimensions.

### **9.1.2 RQ2: Is Chileans' subjective well-being affected by their perceptions towards their society?**

Two main hypotheses were examined through this second research question. Firstly, confidence in political institutions (CONFIDENCE) and generalised trust in society (TRUST) were expected to have a positive effect on life satisfaction as a single indicator on hedonic and eudaimonic as SWB

dimensions. A second hypothesis examined similar effects, but also expected a positive higher correlation between CONFIDENCE and TRUST.

The findings confirm both hypotheses, CONFIDENCE and TRUST positively predict life satisfaction, but also hedonic and eudaimonic well-being (Chapter 2, Hypothesis 6.1). Moreover, CONFIDENCE and TRUST are also highly correlated, confirming the second hypothesis (Chapter 2, Hypothesis 6.2).

In terms of the relevance of each construct in predicting Chileans' SWB, our results suggest that a positive generalised trust in society is the strongest predictor of life satisfaction, but also of hedonic and eudaimonic well-being. This evidence is particularly significant because it shows that individual perceptions towards society have an impact on people's well-being beyond their life satisfaction and happiness.

Regarding the effect of control variables, we found that younger people have a negative perception of national political institutions in contrast to older individuals. Being wealthier also had a positive impact on CONFIDENCE, whereas no significant effects were reported by gender, partnership, parenthood, education and occupational status.

TRUST was more influenced by individual features than institutional confidence. Being a man, living in a couple, having higher educational studies and feeling part of the highest two income quintiles are positive predictors of TRUST. Conversely, being unemployed and having lower incomes are negative predictors.

The results mentioned support the existence of two polarised social groups. On one hand, those who trust in Chilean society because they enjoy an acceptable socioeconomic status (higher incomes and education) as well as a positive personal well-being (living in a couple). On the other hand, those who are not able to satisfy either their material nor subjective needs. It was observed that unemployment as well as feeling part of the lowest income quintiles have a negative effect on how people perceive their social environment and how unequal opportunities is for achieving a better life are.

Certainly, national social policy should be especially focused on those suffering material deprivation, endowing them with essential functionings to firstly satisfy their basic needs.

### **9.1.3 RQ3: Do essential capabilities help to explain Chileans' well-being?**

Through this research question, four hypotheses were evaluated using a multilevel structural equation model. Firstly, it was expected that “having the means to engage in productive and valued activities” (MEANS), “being healthy” (HEALTHY) and “being adequately sheltered” (SHELTER) would have a positive impact on Chileans' well-being. Secondly, a greater impact of MEANS on Chileans' well-being instead of the other two sets of capabilities was also expected. A third hypothesis evaluated a positive effect of MEANS on HEALTHY and SHELTER. Finally, a fourth hypothesis predicted that MEANS would be negatively affected by from a minority ethnic group, being older and being a parent, whereas being a man would have a positive effect. SHELTER is negatively impacted by being older and being from a minority ethnic group. HEALTHY is negatively affected by age and positively by being a man. Positive significant effects across all these capabilities are expected by being in a partnership and living in an urban or metropolitan area and having a stable partner across all the sets of capabilities.

The results suggest that MEANS, HEALTHY and SHELTER are significant predictors of Chileans' well-being, supporting the first hypothesis. A more specific analysis by each capability set suggests that some functionings are more relevant than others. In the case of MEANS, the most relevant functionings are related to having higher educational attainments (HEDUCATION), earnings of the main occupation (INCOME) and having a full-time job (FTIME). Nevertheless, the inclusion of having savings (SAVINGS), a positive socioeconomic personal perception (ISOCIO) and broader social networks (NOTHERS) also showed significant positive effects on MEANS. Interestingly, those closer networks related to family

support for finding a job or owning a business was the only functioning affecting MEANS negatively.

Regarding HEALTHY, the findings suggest that both, a positive health status perception (HEALTH) and the absence of a chronic illness (ILLNESS) are positive functionings explaining HEALTHY. Contrary to the common indicators used by Chilean policy makers to measure access, coverage and quality of healthcare services, this dissertation showed that the inclusion of a subjective indicator allows a broader understanding of Chileans' well-being.

Regarding SHELTER, having access to basic supplies (SUPPLY), an adequate house (HOUSE) and acceptable quality of housing material (MATERIAL) are positive functionings explaining being well sheltered. Nevertheless, compared with MEANS and HEALTHY, SHELTER is a less relevant capability set for understanding Chileans' well-being. Greater investments made by the governments from 1990s to the present in order to improve housing access and quality, might explain the lower effect of SHELTER on WBEING. Nonetheless, it should be highlighted that the inclusion of other functionings not available in our dataset could show a more precise picture of the effect of living conditions on Chileans' well-being.

The findings also supported the second and third hypotheses because MEANS has the greatest effect on WBEING, in contrasting with HEALTHY and SHELTER as well as significant positive effects on HEALTHY and SHELTER respectively. Finally, well-being disparities controlled by a set of individual variables on MEANS, HEALTHY and SHELTER give mixed results, partially confirming the last hypothesis.

According to the fourth hypothesis, the findings support positive effects on MEANS by being a man and living in a metropolitan area and urban centres. A positive impact on HEALTHY by being a man, but a negative one by age were also found, as well as positive effects of living in an urban area and the Capital of Chile on SHELTER. The results here also confirm negative effects of being from a minority ethnic group on MEANS and

SHELTER and a negative one on MEANS by being older. Conversely, no positive effects of territorial variables on HEALTHY or positive impacts of living in a partnership were supported.

Similar to the results found by examining individual predictors on hedonic and eudaimonic well-being, the effects of some control variables on WBEING are not uniform. That means that a personal attribute can promote a set of capabilities and constrain another at the same time. The findings indicate that being a man is a positive personal attribute for HEALTHY and MEANS, but not for SHELTER. Being older positively impacts on SHELTER, but negatively on MEANS and HEALTHY. Living in a partnership only has a negative effect on MEANS, but no significant impact on HEALTHY and SHELTER. Having an ethnic affiliation constrains MEANS and SHELTER but not HEALTHY.

The results suggest that variables such as sex, age or ethnicity cannot be understood as a source of well-being disparities across all people's life domains. This point is particularly relevant for policy implications as is discussed in the last section of chapter 7.

The findings obtained here reinforce the importance of measuring Chileans' well-being as a multidimensional concept. This pioneer analysis of the Chilean case identified MEANS as a key capability set as well as its interactions with HEALTHY and SHELTER. Even though this work was limited by the number of capabilities and functionings incorporated, it is a starting point for further research focused on similar aims.

## **9.2 Theoretical Contributions**

### **9.2.1 RQ1: Are hedonic and eudaimonic distinctive components of Chileans' subjective well-being?**

Although there is an increasing interest in studying SWB in national research, mostly of these studies are focused on a hedonic perspective (Chapter 2, Section 2.5). Chileans' SWB has been measured by single indicators such as overall life satisfaction and happiness; nevertheless little is known about SWB beyond life judgements and positive feelings. In

addressing that lack, this dissertation put special attention on the existence of another SWB dimension close to psychological well-being or flourishing, namely “eudaimonic well-being”, based on the PP perspective.

The findings reinforced the relevance of understanding SWB beyond pleasurable experiences. Indeed, both, hedonic and eudaimonic are positive and significant dimensions explaining SWB in Chile; however, the eudaimonic had a greater impact than hedonic (Chapter 5, section 5.2.2).

The inclusion of a set of predictors related to demographic, socioeconomic and family life aspects made it possible to observe how hedonic and eudaimonic well-being are influenced or not by specific individual characteristics (Chapter 5, section 5.2.2). Interestingly, the hedonic component is affected much more by these variables compared to the eudaimonic aspect, opening up new questions about what other significant predictors impact on achieving well-being.

The different impact of time on hedonic and eudaimonic well-being also highlighted the need for analyses beyond positive feelings and emotions. Whereas hedonic remains positively influenced by all the time periods, eudaimonic showed mostly no significant effects (Chapter 5, section 5.2.2). Results preliminarily suggest that eudaimonic well-being might be affected by long-term life events rather than contextual circumstances occurring in a specific time period.

In conclusion, the main theoretical contribution from this question is to highlight the relevance of a SWB analysis beyond a hedonic perspective exclusively. Findings showed that eudaimonic as a concept closer to a wider psychological well-being is related to hedonic, but is also an independent and particular well-being dimension. Further research should explore widely on the interactions and dissimilarities between both dimensions, searching ways through which social policy might promote specific aspects of Chileans' SWB.

### **9.2.2 RQ2: Is Chileans' subjective well-being affected by their perceptions towards their society?**

Although our literature review revealed a large number of SWB studies in national research, most of them examine SWB as an individual phenomenon disconnected from those contextual effects of the society in which individuals take part (Chapter 2, Section 2.5). Conversely, this dissertation supports that SWB is more than the individual pursuit of happiness based on personal efforts and psychological characteristics exclusively. In fact, the findings confirmed that society matters, because CONFIDENCE and TRUST both showed significant effects on SWB.

Despite some limitations related to the information available, this dissertation offers empirical evidence supporting the relevance of context on people's feelings and experiences. That opens doors to policy interventions as a viable way to promote people's SWB, understanding that social environment perception is significantly associated with individuals' SWB.

Additionally, this dissertation evaluated the association between people's views on society and SWB beyond life satisfaction as the classical single indicator used (Chapter 2, Section 2.4.2). Accounting for the evidence found in Chapter 5, it was observed how societal environment perception impacts on both, hedonic and eudaimonic well-being. Although the findings showed a stronger effect of contextual aspects on hedonic well-being (measured by life satisfaction and happiness), we found that eudaimonic well-being (measured by having freedom of choice and a meaningful life) is also strongly predicted by CONFIDENCE and TRUST.

Finally, the use of the capability approach as an umbrella for answering this question contributes to a better understanding of SWB "in context". Conversely to the positive psychology underpinning our first research question, the capability perspective allows a broader SWB analysis, because individual feelings and judgements are also influenced by the opportunities and constrainers given by the context. In this regard, this theoretical approach turns a psychological matter into a sociological research issue

because societal structures and inequalities take part in positive or negative personal states.

### **9.2.3 RQ3: Do essential capabilities help to explain Chileans' well-being?**

A conclusion obtained from the Chapter 5 was the greater impact of eudaimonic rather than the hedonic dimension in explaining Chileans' SWB. That evidence suggested that functioning well to achieve a better life was even more relevant than feeling good. Therefore, the third question contributed to identifying what capabilities (as a set of functionings) are relevant to achieving well-being, how these capabilities interact with one another and what individual characteristics can promote or constrain each set of capabilities.

Accounting for the contribution of the capability approach, well-being was understood as a good life, involving both subjective and objective indicators as well as some individual characteristics as potential sources of inequalities within the population. This approach made it possible to identify that “having the means to engage in productive and valued activities”, “being healthy” and “being adequately sheltered” are all basic capabilities explaining Chileans' well-being. Nevertheless, the first one is the most important capability achieving in well-being through having earnings, higher education studies and an occupation as key functionings.

Another contribution to answering this question was the impact of some individual characteristics as constraints or promoters of well-being in Chile. Aiming to identify well-being inequalities by the presence of some individual attributes, we examined a set of priority groups for Chilean social policy involving variables such as sex, age, marital status, educational attainment, parenthood, ethnicity, income, occupational status and territory.

Conversely to the homogeneous influence of these attributes on each set of capabilities, differentiated effects were found. For example, being ages over 60 years is a negative predictor of “having the means to engage in productive and valued activities” and “being healthy”; however, it is a

positive predictor of “being adequately sheltered”. Similarly, being a man positively impacts on “having the means to engage in productive and valued activities” and “being healthy”; nevertheless “being adequately sheltered” is negatively impacted. (Chapter 7, section 7.3).

The findings above contribute to creating distance from a perspective in which specific personal attributes are always in favour or against achieving well-being. Data suggest that the same individual characteristic can promote a particular capability set, whereas it constrains another one. This point is particularly relevant for policy implications because attributes such as being a woman, being older or belonging to any ethnic group are usually considered as sources of well-being inequalities over those entire life domains intervened in by social programmes (Chapter 4, section 4.2)

In conclusion, the use of the theoretical basis of the capability approach contributed to an enriched well-being analysis for the Chilean case. Despite some limitations associated with the number and type of capabilities and functionings involved, this is a pioneering attempt to understanding Chileans’ well-being from that perspective.

### **9.3 Methodological Contributions**

#### **9.3.1 RQ1: Are hedonic and eudaimonic distinctive components of Chileans’ subjective well-being?**

Confronting the lack of subjective well-being data in Chile, this dissertation used five waves of the World Values Survey from 1990 to 2014 as the main dataset. According to my literature review, there is no national research focused on SWB using this database, this dissertation therefore is the first approach. Beyond data examined, the use of a confirmatory factor analysis (CFA) is the most relevant methodological contribution because this method has been only used in Chile to examine the psychometric properties of scales measuring SWB, but not to assessing SWB as a multidimensional concept (Chapter 2, section 2.5).

Through a second-order CFA model, SWB was measured as a second-order latent variable explained by hedonic and eudaimonic constructs. One of the advantages of this method was the use of latent variables measuring SWB instead of single indicators. As was previously discussed in the literature review, national research has been focused on life satisfaction or happiness as SWB synonymous, therefore, multidimensional SWB analyses are limited for the Chilean case (Chapter 2, section 2.5).

The opportunity to create latent constructs from a CFA allowed identifying hedonic and eudaimonic as two overlapped, but differentiated SWB dimensions. Contrary to the common path of analysing life satisfaction and happiness separately, this dissertation considered both as part of the hedonic dimension. Moreover, freedom of choice and control and meaning and purpose of life made it possible to evaluate a missing eudaimonic dimension in the national research. Despite the number and kind of indicators used to construct each latent variable, this model is a starting point for further research focused on multidimensional SWB approaches.

### **9.3.2 RQ2: Is Chileans' subjective well-being affected by their perceptions towards their society?**

Similarly to the previous question, the use of CFA as the main method of analysis assessed the impact of macro latent constructs on SWB. Using a second-order CFA model, this dissertation explored the impact of institutional confidence and generalised trust in society on life satisfaction, and then on hedonic and eudaimonic SWB dimensions. Conversely to the use of independent single variables on SWB, the present work involves a set of key indicators explaining each one of these two constructs.

Moreover, and beyond the classical association between societal perceptions and life satisfaction or happiness, this dissertation also examined the effect of social environment perceptions on hedonic and eudaimonic SWB dimensions. The use of latent constructs replacing single variables is one of the CFA's advantages valued by this work.

### **9.3.3. RQ3: Do essential capabilities help to explain Chileans' well-being?**

Methodological contributions to answering this question are related to the database examined and the method applied. Findings were obtained using the only longitudinal dataset designed in Chile applied for first time in 2006 and then annually until 2009 (CASEN PANEL). Because the CASEN PANEL survey was no longer collected, it has been dismissed by national research; however, this particular question had as an advantage its longitudinal attribute. Indeed, the use of a multilevel confirmatory factor analysis (MCFA), the main method answering this question, was possible because of the availability of longitudinal data (Chapter 3, section 3.2).

An MCFA model was used to answer a set of hypotheses underpinned by the capability approach. This particular method, as well as the CFA previously mentioned made it possible to create latent variables through a range of observed indicators, but MCFA also considers the hierarchical structure of the data. In our case, that hierarchy was represented by waves or years clustered in individuals; therefore, MCFA analyses well-being as an abstract construct also accounted for by individual differences over the time covered.

The findings obtained through a MCFA measured well-being as a higher order construct explained by three sets of capabilities as well as a range of predictors on each set. Using a MCFA it was possible to identify the most relevant capability set explaining well-being in Chile, the interactions between the three sets of capabilities as well as those significant predictors on each one of them. These findings hugely differ from the current well-being wisdom in Chile which is based on one-dimensional analysis differentiated by priority social policy groups (Chapter 4, section 4.2).

Conversely to separated analyses on the core well-being dimensions for Chile (work, health, housing, incomes, among others) this dissertation contributes to a more integrated approach re-thinking those core dimensions as a set of capabilities and focusing attention on their impact on well-being,

but also on their interactions and variations within the population (Chapter 7, section 7.4).

Although the type of capabilities covered is reduced to some basic sets, there is a pioneer attempt to measure well-being in Chile using a structural equation model. Further research should be in line with that international trend, taking advantage of the statistical properties of those new generation methods.

## **9.4 Further Research**

### **9.4.1 Broader SWB analyses**

Despite this dissertation being a pioneer study analysing SWB as a multidimensional concept composed by at least two dimensions, hedonic and eudaimonic well-being, some limitations should be improved in future research. In contrast to international SWB studies in which hedonic and eudaimonic well-being are broadly measured using several indicators, Chilean research is mainly focused on life satisfaction and happiness analyses.

Covering the hedonic component, further research should include a wider range of indicators beyond life satisfaction. Taking into consideration that overall life satisfaction often shows higher scores than life satisfaction based on life domains (Andrews and Crandall, 1976; Diener 1984; Fordyce, 1988; Diener et al. 1999; Helliwell and Barrington-Leigh, 2009; OECD, 2013); future studies should also examine Chileans' life satisfaction by specific life aspects. For example, measures about people's satisfaction with their job, interpersonal relations, family life, health and socioeconomic status among others. Some of these measures are currently collected by national surveys such as ADIMARK-PUC and UDP, however there are not the official sources used by the government for designing national social policies.

Future SWB studies focused on the hedonic dimension should also account for indicators collected in different timeframes. That is because life satisfaction and happiness might show higher variations over time

(Hagedorn, 1996; Waldron, 2010; Diener, 2012; Dolan and Metcalfe, 2012; Krueger and Stone, 2014). It is usual in international surveys such as European Latin Barometer and European Social Survey include questions about present people's opinions and feelings, but also about the past years. Several timeframes indicators might offer more precise and reliable results.

It is even less known about eudaimonic well-being in Chile. A good starting point is to conduct a data collection based on any recognised international framework (such as Ryff, 1989; Nussbaum and Sen, 1996; Johnston and Finney, 2010; Diener et al, 2010; Waterman et al. 2010; OECD, 2013) in order to open this research line in Chile. This dissertation made a first approach, but it is based on a limited measurement of the eudaimonic component.

#### **9.4.2 Accounting for changes over time**

Although this dissertation made an effort measuring the effect of time on people's SWB, there is a weak attempt due to data used are not longitudinal indeed. Hedonic and especially eudaimonic well-being might require longer periods of time to be properly analysed. In the last case, there is no significant effect of time on eudaimonic, nonetheless, specific life events taking place over people's life-courses showed significant impacts. For example, eudaimonic is significantly impacted by living in a partnership and being parent, two relevant aspects related to life events. Further research should explore the association between eudaimonic well-being and specific people's life events over time. In doing so, future data collection should prioritise the design of longitudinal surveys in order to follow SWB variations according to person's critical life events.

Applying similar time controls on confidence in national institutions and trust in society as contextual factors influencing Chileans' SWB, unclear results were found. Longer and more specific periods of time are needed to examine how SWB is impacted on by contextual changes over time. This is a limitation of this study and it should be covered by further research.

### **9.4.3 Measuring SWB as predictor**

Through our empirical chapters, SWB was always treated as a dependent variable predicted by others latent variables such as institutional trust and trust in society and controlling for a set of demographic and socioeconomic variables. Nevertheless, accounting for SWB as predictor of people's overall well-being has been less studies. Some authors have emphasised relative uncertainty about what variables are causes and what are effects (Headey et al. 1991; Diener et al. 1999; Diener, 2012; Sonnentag, 2015). Even though demographic individual variables, material living conditions, wealth and social support have been commonly treated as predictors of SWB (Headey et al. 1991; Dolan et al. 2008; Galinha and Pais-Ribeiro, 2011; Ng and Diener, 2014) current researchers have argued that some causal directions remain unclear (Layard, 2010; Diener, 2012). For example, people with higher life satisfaction and happiness might have a better performance in their jobs or personal lives. A higher SWB might promote to people getting socially involved and feeling healthy among others. Further research should involve SWB as a well-being predictor, contributing to understand other possible causalities.

### **9.4.4 SWB beyond individual feelings and judgements**

This dissertation supported that SWB is far away to be a phenomenon exclusively psychological. Contextual factors such as institutional trust and overall trust in society have an influence on people's SWB. Further research should illuminate the link between contextual events and people's SWB, taking into account the particularities of Chile. For example, the relationship between SWB and political reforms, the impact of natural disasters on people's lives due to Chile is often affected by multiple natural events and the effect that a solid economic neoliberal system implemented in the 70s has on people's well-being.

#### **9.4.5 Beyond Basic Capabilities to understand Chileans' well-being**

Accounting for the relevance of the eudaimonic dimension (measured by freedom of choice and control, and meaning and purpose of life) explaining Chileans' SWB found in this dissertation, further research is required to understand what kind of functionings are mostly affecting Chileans' lives, how they interact and how they vary within subgroups. This thesis contributed with a better understanding of the importance of three basic capabilities achieving Chileans' well-being (MEANS, SHELTER and HEALTHY), nevertheless future studies should cover some other relevant missing capabilities.

A good framework is provided by Nussbaum (2011) who developed a list of basic capabilities beyond the three sets covered by this dissertation. Other examples are the OPHI proposal developed by Alkire's work (2002) and empirical approaches illustrated in Chapter 2 (See more details in APPENDIX 2.3). Nevertheless and accounting for our own results, future studies should especially focused on what are the means that Chileans need and valued to achieve their well-being. As was expected, income-education-occupation triad is essential to have a better life, but also having social networks beyond closer circles are recognised as an important source achieving well-being. Detailed databases about social capital, social participation and social interactions are still limited in the Chilean case; therefore further studies collecting their own data should have in mind the relevance of that kind of capabilities.

#### **9.4.6 Capability approach "in action"**

Although a part of this dissertation was underpinned by the capability approach (CA); its application was preliminary because some key theoretical aspects were not properly worked. Particularly, the existence of multiple contextual factors promoting or constraining people's freedoms and opportunities was limited to institutional and societal trust, omitting other relevant political, economic and cultural aspects as potential limitations for achieving individual freedoms. In this regard, both people's

perceptions on social opportunities available and their distribution within the population also require a deeper future examination, especially accounting for a greater social malaise in Chile highlighted in a previous study (UNDP, 2012).

Moreover, “individual endowments” understood in the CA as people’s constraints for achieving a better life were reduced here to a set of demographic and socioeconomic variables according to the information available. Nevertheless, these individual endowments can be understood as a wider concept in future research, involving for example, psychological variables (Intellectual coefficient, personality), having a permanent disability or belonging to any other minority or religious group among others.

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# **APPENDICES**

## APPENDIX 2.1 Psychological scales measuring the hedonic component of subjective well-being

Instrument	Items	Question	Method employed
Ladder of life scale  Source: Cantril (1965)	1	<i>“Please imagine a ladder with steps numbered from zero at the bottom to ten at the top. Suppose we say that the top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. If the top step is 10 and the bottom step is 0, on which step of the ladder do you feel you personally stand at the present time?”</i>	Pearson correlations measuring reliability.
Delighted-Terrible scale (D-T)  Source: Andrews and Crandall (1976)	6	<i>“Taking into account what has happened in the last year and what you expect in the near future...”</i> “How do you feel about your house or apartment?” “How do you feel about your independence or freedom (the chance you have to do what you want)?” “How do you feel about the way you spend your spare time (your non-working activities)?” “How do you feel about the way in which our national government is operating?” “How do you feel about your standard of living (the things you have, like housing, car, furniture, recreation)?” “How do you feel about your life as a whole?” (From 7 =delighted to 1=terrible”)	Structural equation models of multimethod-multitrait.
Index of Happiness and Mental Health (HM)  Source: Fordyce (1988)	2	“In general, how happy or unhappy do you usually feel?(From 10=Extremely happy to 0=Extremely unhappy)” “On the average, what percentage of the time do you feel happy?” “What percentage of the time do you feel unhappy?” “What percentage of the time do you feel neutral (neither happy nor unhappy)?”	Pearson correlations measuring reliability and validity.
Life Satisfaction Research Questionnaire (LSRQ)  Source: Hagedorn (1996)	9	“Past circumstances” “Present circumstances” “Overall circumstances evaluation” “What you made with your circumstances in the past” “What you made with your circumstances in the present” “Overall made satisfaction” “Past life satisfaction” “Present life satisfaction” “Overall life satisfaction evaluation”	Pearson correlations measuring reliability, validity and temporal stability.
Satisfaction with life scale (SWLS)  Source: Diener et al (1985)	5	<i>“Below are five statements with which you may agree or disagree. Using the scale 1-7 below, indicate your agreement with each item”</i> “In most ways, my life is close to my ideal” “The conditions of my life are excellent” “I am satisfied with my life” “So far, I have gotten the important things I want in my life” “If I could live my life over, I would change almost nothing”	Pearson correlations measuring consistency and temporal stability

<i>(from 1 Strongly disagree to 7 Strongly agree)</i>			
Subjective happiness scale (SHS)	4	<p>“In general, I consider myself: <i>1 not a very happy person to 7 a very happy person</i>”</p> <p>“Compared to most of my peers, I consider myself: <i>1 less happy to 7 more happy</i>”</p> <p>“Some people are generally very happy. They enjoy the life regardless of what going on, getting the most out of everything. To what extent does this characterisation describe you? <i>1 not at all to 7 a great deal</i>”</p> <p>“Some people are generally no very happy. Although they are not depressed, they never seem as happy as they might be. To what extent does this characterisation describe you? <i>1 not at all to 7 a great deal</i>”</p>	Pearson correlations measuring reliability and validity
Source: Lyubomirsky and Leppe (1999)			
Short depression-happiness scale (SDHS)	6	<p>“I felt dissatisfied with my life”</p> <p>“I felt happy”</p> <p>“I felt cheerless”</p> <p>“I felt pleased with the way I am”</p> <p>“I felt that life was enjoyable”</p> <p>“I felt that life was meaningless”</p> <p><i>Never</i></p> <p><i>Rarely</i></p> <p><i>Sometimes</i></p> <p><i>Often</i>”</p>	Principal component Analysis
Source: Stephen et al (2004)			

Source: Prepared by author, adapted from Cooke, et al. 2016.

## APPENDIX 2.2 Psychological scales measuring the eudaimonic component of subjective well-being

Instrument	Dimension	Questions	Method employed
Scales of Psychological Well-being	Self-acceptance Positive relationship Autonomy Environmental mastery Purpose of life Personal growth	<ol style="list-style-type: none"> <li>Affect Balance Scale based on Bradburn (1969).</li> <li>Life Satisfaction Index (LSI) based on Neugarten et al. (1961).</li> <li>Self-esteem Scale based on Rosenberg (1965).</li> <li>The revised Philadelphia geriatric Center Morale Scale based on Lawton (1975).</li> <li>Locus of control Scale based on Levenson (1974).</li> <li>Depression Scale based on Zung (1965).</li> </ol>	Principal component analysis and Pearson correlations.
Source: Ryff (1989)			
“The basic needs satisfaction in general” (BNSG-S)	Autonomy	<ol style="list-style-type: none"> <li>“I feel like I am free to decide for myself how to live my life”.</li> <li>“I generally feel free to express my ideas and opinions”.</li> <li>“I feel like I can pretty much be myself in my daily situations”.</li> </ol>	Confirmatory factor analysis
Source:		<i>(Scale 1 Not at all true to 7 very true)</i>	

Johnston and Finney (2010)	Competence	<ol style="list-style-type: none"> <li>1. "Often, I do not feel very competent".</li> <li>2. "People I know tell me I am good at what I do".</li> <li>3. "I have been able to learn interesting new skills recently".</li> <li>4. "Most days I feel a sense of accomplishment from what I do".</li> <li>5. "In my life I do not get much of a chance to show how capable I am".</li> <li>6. "I often do not feel very capable".</li> </ol>	
	Relatedness	<ol style="list-style-type: none"> <li>1. "I really like the people I interact with".</li> <li>2. "I get along with people I come into contact with".</li> <li>3. "I pretty much keep to myself and don't have a lot of social contacts".</li> <li>4. "I consider the people I regularly interact with to be my friends".</li> <li>5. "People in my life care about me".</li> <li>6. "The people I interact with regularly do not seem to like me much".</li> <li>7. "People are generally pretty friendly towards me".</li> </ol>	
"The Flourishing Scale" (FS)  Diener et al (2010)	Human Flourishing	<ol style="list-style-type: none"> <li>1. "I lead a purposeful and meaningful life".</li> <li>2. "My social relationships are supportive and rewarding".</li> <li>3. "I am engaged and interested in my daily activities".</li> <li>4. "I actively contribute to the happiness and well-being of others".</li> <li>5. "I am competent and capable in the activities that are important to me".</li> <li>6. "I am a good person and live a good life".</li> <li>7. "I am optimistic about my future".</li> <li>8. "People respect me".</li> </ol> <p><i>(Scale 1 strongly agree to 7 strongly disagree)</i></p>	Pearson correlation analyses.
Questionnaire for Eudaimonic well-being (QEWB)  Waterman et al (2010)	Eudaimonic well-being	<ol style="list-style-type: none"> <li>1. "I find I get intensely involved in many of the things I do each day".</li> <li>2. "I believe I have discovered who I really am".</li> <li>3. "I think it would be ideal if things came easily to me in my life".</li> <li>4. "My life is centred on a set of core beliefs that give meaning to my life".</li> <li>5. "It is more important that I really enjoy what I do than that other people are impressed by it".</li> <li>6. "I believe I know what my best potentials are and I try to develop them whenever possible".</li> </ol>	Means comparisons and Pearson correlation analyses.

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7. "Other people usually know better what would be good for me to do than I know myself".
  8. "I feel best when I'm doing something worth investing a great deal of effort in".
  9. "I can say that I have found my purpose in life".
  10. "If I did not find what I was doing rewarding for me, I do not think I could continue doing it".
  11. "As yet, I've not figured out what to do with my life".
  12. "I can't understand why some people want to work so hard on the things that they do".
  13. "I believe it is important to know how what I'm doing fits with purposes worth pursuing".
  14. "I usually know what I should do because some actions just feel right to me".
  15. "When I engage in activities that involve my best potentials, I have this sense of really being alive".
  16. "I am confused about what my talents really are".
  17. "I find a lot of the things I do are personally expressive for me".
  18. "It is important to me that I feel fulfilled by the activities that I engage in".
  19. "If something is really difficult, it probably isn't worth doing".
  20. "I find it hard to get really invested in the things that I do".
  21. "I believe I know what I was meant to do in life". (*Scale 0 strongly disagree to 5 strongly Agree*)
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Source: Prepared by the author adapted from Cooke et al. 2016.

## APPENDIX 2.3 Well-being Operationalisation in Empirical Studies based on the Capability Approach

Source	Dimensions	Indicators	Method
Bérenger and Verdier-Chouchane (2007)	Standard of living	“Public health expenditure (% GDP)”. “Improved water source (% of population with access)”. “Physicians (per 1,000 people)”. “Age dependency ratio (dependents to working-age population)”. “Public spending on education (% GDP)”. “Net primary enrolment (%)”. “Vehicles (per 1,000 people)”. “Roads paved (% of total roads)”. “Television sets (per 1,000 people)”.	Fuzzy Set Theory (FST).  Factor analysis of correspondences (FAC)
	Quality of life	“Percentage of under-weight or under-height children under age five”. “Years of life expectancy at birth”. “Maternal mortality reported (per 100,000 live births)”. “Literacy rate (% of people aged 15 and above)”. “Labour force, children 10-14 (% of age group)”. “Female labour force (% of total labour force)”. “Openness (trade, % of GDP)”. “CO <sub>2</sub> emissions (metrics tons per capita)”. “Political rights and civil liberties (index)”.	
Krishnakumar (2007)	Knowledge	“Adult literacy rate (% age 15 and above) Combined primary, secondary and tertiary gross enrolment ratio (%)”.	Structural Equation model (SEM)
	Health	“Life expectancy at birth (years) Infant mortality rate (per 1000 live births) Under-five mortality rate (per 1000 live births)”.	
	Political Freedom	“Political rights (scoring 0 to 6)”. “Civil liberties (scoring 0 to 6)”. “Voice and accountability (scoring 0 to 5)”.	
	Exogenous	“Government effectiveness”. “Regulatory quality”. “Population using improved water sources (%)”. “Cellular mobile subscribers (per 1000 people)”. “Public expenditure on health (% of GDP)”. “Total debt service (% of GDP)”. “Density (persons per square km)”. “Political stability”. “Population growth rate (annual %)”. “Urban population growth rate (annual %)”. “Youth bulge (population aged 0–14	

		as a % of total)". "Physicians (per 100 000 people)". "Press freedom". "Democracy–autocracy index". "Total fertility rate (per woman)". "Foreign direct investment (US\$PPP)". "Gross fixed capital formation (US\$PPP)". "Trade (US\$PPP)".	
Lelli (2008)	Social interactions	"Frequency of contacts with friends". "Frequency of attending matches". "Frequency of going to cafes, restaurants, discos and going out". "Frequency of playing games with friends". "Participation at least once a week in sporting activity".	Fuzzy Set Theory (FST).
	Economic Status	"Possibility of making ends meet". "Degree of satisfaction of one's economic situation". "Perception of the household present economic situation". "Regularity in saving". "Various economic difficulties". "Lack of a number of commodities due to unaffordability (car; TV; video recorder; microwave oven; telephone; dishwashing machine; computer; country house; alarm system)".	
	Health	"Self-assessed health status". "Presence of chronic illness, handicap or disability". "Interruption of one's activities due to recent illness/accident". "Hospitalised during last year". "Number of visits to a generalist in last year". "Number of visits to a specialist in last year". "Number of visits to an Homeopath, osteopath, etc. in last year".	
	Cultural activities	"Frequency of going to the theatre, cinema, concerts, museums, conferences". "Participation in a creative activity (dance, painting, singing, theatre, etc.)". "Membership of a socio-cultural Association".	
	Shelter	"No. of rooms/equivalence scale". "Heating availability". "Degree of satisfaction about one's housing". "Presence of structural problems in the house". "Presence of problems due to the Location".	

	Psychological distress	<p>“Frequency of feeling depressed”.</p> <p>“Frequency of losing appetite”.</p> <p>“Frequency of difficulty sleeping”.</p> <p>“Frequency of feeling without energy”.</p> <p>“Frequency of being unable to sit Quietly”.</p> <p>“Frequency of feeling guilty”.</p> <p>“Frequency of being unable to Concentrate”.</p> <p>“Frequency of weeping easily”.</p> <p>“Frequency of being pessimistic”.</p> <p>“Frequency of being irritable”.</p> <p>“Frequency of needing reassurance”.</p> <p>“Frequency of feeling out of sorts”.</p> <p>“Interruption of one’s activities due to psychological problems”.</p>	
	Working conditions	<p>“Degree of satisfaction about the certitude of one’s work”.</p> <p>“Degree of satisfaction about one’s type of activity”.</p> <p>“Degree of satisfaction about the number of hours spent at work”.</p> <p>“Degree of satisfaction about one’s schedule”.</p> <p>“Degree of satisfaction about one’s working conditions and environment”.</p> <p>“Degree of satisfaction about the distance of one’s workplace from home”.</p> <p>“Currently looking for an alternative job”.</p> <p>“Feeling overqualified for the position currently held”.</p>	
Roche (2008)	“Housing services”	<p>Sewage</p> <p>Water</p> <p>Electricity</p> <p>Fuel for cooking</p>	Fuzzy Set Theory (FST).
	“Housing structure	Material in the roof, floor and walls	Principal component analysis (PCA)
	Adequacy space”	Overcrowding Index	
Martinetti (2000)	Housing	<p>Crowding Index</p> <p>Basic housing utilities (telephone, regular water availability and heating)</p> <p>presence/absence of chronic illnesses</p>	Fuzzy Set Theory (FST).
	Health conditions		
	Education and knowledge	<p>Higher education attainment</p> <p>“Number of books read during the last 12 months”.</p> <p>“Frequency of reading newspapers during a week”.</p>	
	Social interactions	<p>“Frequency of contact and meeting with friends”.</p> <p>“Participation in social life. i) passive participation (eight dichotomous variables related to political, cultural or associative meetings participation,</p>	

		public demonstrations, etc.); ii) active participation (six dichotomous variables concerning the membership or a direct involvement in associations, political parties, and other kinds of organisation)". "Political interest (a categorical variable that roughly describes the degree of interest in political issues)".	
	Psychological conditions	Subjective evaluations on economic conditions; personal and social relations; health conditions, working conditions and leisure time.	
	Control variables	Sex; age; geographical area; marital status; work status and occupational group.	
Burchardt and Vizard (2011)	Life Physical security Health Education and learning Standard of living Productive and valued activities Participation, influence and voice Individual, family and social life Identity, expression and self-respect Legal security	Functionings (what people are actually doing and being) Treatment (discrimination, dignity and respect) Autonomy (empowerment, choice and control)	In- Depth Interviews

Source: Prepared by the author based on the articles cited.

**APPENDIX 3.1 Re-coding original variables answering Are hedonic and eudaimonic distinctive components of Chileans' SWB?**

Name	Question	Original scale measure	Modified scale measure
<b>SATISF (A170)</b>	All things considered, how satisfied are you with your life as a whole these days?	1“Dissatisfied” 2 3 4 5 6 7 8 9 10“Satisfied”	Ordinal 1=1 2=1 3=1 4=2 5=2 6=2 7=2 8=3 9=3 10=3
<b>HAPPY (A008)</b>	Taking all things together, would you say you are:	1“Very happy” 2 3 4 “Not at all happy”	Dummy 1=1 2=1 3=0 4=0
<b>FREEDOM (A173)</b>	How much freedom of choice and control you feel you have over the way your life turns out.	1“None at all” 2 3 4 5 6 7 8 9 10“a great deal”	Dummy 1=0 2=0 3=0 4=0 5=0 6=1 7=1 8=1 9=1 10=1
<b>PURPOSE (F001)</b>	How often, if at all, do you think about the meaning and purpose of life?	1“Often” 2 3 4 “never”	Dummy 1=1 2=1 3=0 4=0
<b>YOUNGER (X003)</b>	Age 18-29 years old	Continuous in years	Dummy 1=18-29 years 0= over 29 years
<b>OLDER (X003)</b>	Age over 60 years old	Continuous in years	Dummy 1=over 60 years 0=under 60 years
<b>MAN (X001)</b>	Being a man	1=male 2=female	Dummy 1=1 2=0
<b>PARTNER (X007)</b>	Living in partnership	1= married 2=living together as married 3= divorced 4=separated 5= widowed 6= single 7=divorced, separated or widow 8= living apart but steady in relation	Dummy 1=1 2=1 3=0 4=0 5=0 6=0 7=0 8=1
<b>HEDUCATION (X025)</b>	Higher education studies	1=incomplete elementary education 2=Complete elementary education 3=incomplete secondary school 4=complete secondary	Dummy 1=0 2=0 3=0 4=0 5=0 6=1

		school	7=1
		5= incomplete undergraduate studies	8=1
		6= complete undergraduate studies	
		7=Higher studies without degree	
		8= Higher studies with degree	
<b>FTIME (X028)</b>	Full time worker		Dummy
			1=1
			2=0
			3=0
			4=0
			5=0
			6=0
			7=0
			8=0
<b>PTIME (X028)</b>	Part-time worker		Dummy
		1=full-time	1=0
		2=part-time	2=1
		3=self-employed	3=0
		4=retired	4=0
		5=housewife	5=0
		6=students	6=0
		7=unemployed	7=0
		8=other	8=0
<b>SELF (X028)</b>	Self-employer		Dummy
			1=0
			2=0
			3=1
			4=0
			5=0
			6=0
			7=0
			8=0
<b>RETIRED (X028)</b>	Being retired		Dummy
			1=0
			2=0
			3=0
			4=1
			5=0
			6=0
			7=0
			8=0
<b>UNEMPL (X028)</b>	Being unemployed		Dummy
			1=0
			2=0
			3=0
			4=0
			5=0
			6=0
			7=1
			8=0
<b>CHILDREN (X011)</b>	Having Children	0=no children	Dummy
		1= 1 child	0=0
		2= 2 children	1=1
		3= 3 children	2=1
		4= 4 children	3=1
		5= 5 children	4=1
		6= 6 children	5=1
		7= 7 children	6=1
		8= 8 children	7=1
			8=1

<b>QUINTIL1 (X047)</b>	Self-reported in the first income quintile	1= lower step 2= second step 3= third step 4= fourth step 5= fifth step 6= sixth step 7= seventh step 8= eighth step 9= ninth step 10= tenth step 11= highest step	Dummy 1=1 2=1 3=1 4=0 5=0 6=0 7=0 8=0 9=0 10=0 11=0
<b>QUINTIL2 (X047)</b>	Self-reported in the second income quintile		Dummy 1=0 2=0 3=0 4=1 5=1 6=0 7=0 8=0 9=0 10=0 11=0
<b>QUINTIL4 (X047)</b>	Self-reported in the fourth income quintile		Dummy 1=0 2=0 3=0 4=0 5=0 6=0 7=1 8=1 9=0 10=0 11=0
<b>QUINTIL5 (X047)</b>	Self-reported in the fifth income quintile		Dummy 1=0 2=0 3=0 4=0 5=0 6=0 7=0 8=0 9=1 10=1 11=1
<b>YEAR4 (S003)</b>	Period from 1999 to 2004	2= 1990-1993 3= 1994-1998 4= 1999-2004 5= 2005-2009 6= 2010-2014	Dummy 2=0 3=0 4=1 5=0 6=0
<b>YEAR5 (S003)</b>	Period from 2005 to 2009		Dummy 1=0 2=0 3=0 4=0 5=1 6=0
<b>YEAR6 (S003)</b>	Period from 2010 to 2014		Dummy 1=0 2=0 3=0

4=0  
5=0  
6=1

Original variable names are shown in brackets

### APPENDIX 3.2: Re-coding original variables answering Is Chileans' well-being affected by their perceptions towards their society?

Name	Question	Original scale measure	New name	Modified scale measure
<b>ARMY</b> (E069_02)	How much confidence do you have in the Armed Forces?			
<b>POLICE</b> (E069_06)	How much confidence do you have in the National Police?	1= great deal 2		Dummy 1=1 2=1
<b>PARLIAM</b> (E069_07)	How much confidence do you have in Parliament?	3 4= None at all		3=0 4=0
<b>CIVIL</b> (E069_08)	How much confidence do you have in the Civil Services?			
<b>GOVERN</b> (E069_11)	How much confidence do you have in the government?			
<b>PPARTIES</b> (E069_12)	How much confidence do you have in the Political Parties?			
<b>TRUSTED</b> (A165)	Most people can be trusted	1= most people can be trusted 2=Can't be too careful		Dummy 1=1 2=0
<b>RIGHTS</b> (E124)	Respect for individual human rights nowadays	1= there is a lot of respect for the individual 2 3 4= there is not respect at all		Dummy 1=1 2=1 3=0 4=0
<b>EQGOV</b> (E037)	A deregulated society where people are responsible for their own actions	1= People should take more responsibility 2 3 4 5 6 7 8 9 10= The government should take more responsibility)		Dummy 1=1 2=1 3=1 4=1 5=-9 6=0 7=0 8=0 9=0 10=0
<b>EQUALS</b> (E128)	The government runs for all people interests instead of big interests.	1= the government runs for all people interests 2 3 4 5 6 7 8 9 10= the government runs for big interests		Dummy 1=1 2=1 3=1 4=1 5=-9 6=0 7=0 8=1 9=0 10=0

Original variable names are shown in brackets

### APPENDIX 3.3: Re-coding original variables answering Do essential capabilities help to explain Chileans' well-being?

Original variable	Current label	Original scale measure	Modified scale measure
<b>Health</b>			
HEALTH (S7)	Health status perception	Ordinal 1=very good 2=good 3=Not poor at all 4= Poor 5= very poor	Ordinal 1=1 2=1 3=3 4=4 5=5
ILLNESS (S15.a)	Free of suffering a chronic illness	Dichotomous 1=yes, I am sick 2=no, I am healthy	Dummy 1=1 2=0
<b>Shelter</b>			
V5 SUPPLY	Access to water services	Categorical 1= water in the house 2= water in the site 3= no water access	Dummy 1=1 2=1 3=0
V6	Access to sewage services	Categorical 1=yes, connected to sewage 2= yes, connected to septic tank 3= yes, connected to sanitary tank 4=yes, connected to another tank 5= yes, connected to a canal 6= yes, connected to another system 7= No access	Dummy 1=1 2=1 3=1 4=1 5=1 6=1 7=0
MATERIAL V8.b	Material walls' quality	Categorical 1= good 2=acceptable 3=poor	Dummy 1=1 2=1 3=0
HOUSE V10.b	Material roof's quality		
V9.b	Material floors' quality		
V11	Type of house (separated, detached or semi-detached, flat)	Categorical 1=house 2=house in condominium 3= house in other condominiums 4=Flat 5=room in house 6= room in old house 7 to 10= not properly house	Dummy 1=1 2=1 3=1 4=1 5=1 6=1 7=0 8=0 9=0 10=0
<b>Means</b>			
HEDUCATION E8	Having professional or higher studies	Categorical 1=Reception 2=Primary 3= Primary old system 4= Special education 5=Secondary old system 6=Secondary 7=secondary technical 8= training secondary education 9=incomplete	Dummy 1=0 2=0 3=0 4=0 5=0 6=0 7=0 8=0 9=0 10=0

		professional training	11=0
		10 complete	12=0
		professional training	13=0
		11= incomplete institute	14=1
		12= complete institute	15=1
		13=incomplete	16=0
		undergraduate studies	
		14= Complete	
		undergraduate studies	
		15= Postgraduate studies	
		16= No studies	
FTIME O16	Full-time worker	Categorical	Dummy
		1= Full-time	1=1
		2=season	2=0
		3= eventual	3=0
		4= training	4=0
		5= by goals	5=0
INCOME	Logarithm individual incomes	Continuous in currency	Logarithm
YOPR		Chilean pesos	
SAVING Y21.1	Having savings	Dichotomous	Dummy
		1=yes	1=1
		2=no	2=0
NFAMILY	Family networks to find a job or undertaking a business	Categorical	Dummy
		1=family	1=1
		2=friends and neighbours	2=0
		3=ex-colleagues	3=0
		4=ex-employers	4=0
		5=governmental agencies	5=0
		6= Social programme	6=0
		7= Private employment agencies	7=0
		8= educational institutions in which you studied	8=0
		9=self-employer	9=0
		10=Internet	10=0
		11= other	11=0
		12= I did it by myself	12=0
NOTHERS O18	Other networks to find a job or undertaking a business		Dummy
			1=0
			2=0
			3=1
			4=1
			5=1
			6=1
			7=1
			8=1
			9=0
			10=0
			11=0
			12=0
ISOCIO I18	Socioeconomic status perception	Ordinal	Ordinal
		1=more than enough	1=more than enough
		2= enough	2= enough
		3= Not enough at all	3= Not enough at all
		4= less than enough	4= less than enough
<b>Covariates</b>			
MAN R2	Being a man	Dichotomous	Dummy
		1= male	1=1
		2= female	2=0
AGE R3	Age in years	Numerical	Continuous
YOUNGER R3	Age between 18-35 years old	Numerical	Dummy
			1= 18-35 years
			0= over 35 years

OLDER R3	Age over 60 years old	Numerical	Dummy 1= over 60 years 0= under 60 years
R6 PARTNER	Living with a stable partner	Categorical 1=married 2= living together, no married 3= separated 4=legally separated 5= divorced 6= widowed 7=single	Dummy 1=1 2=1 3=0 4=0 5=0 6=0 7=0
R5 PARENT	Being a parent	Dichotomous 1=yes 2= no	Dummy 1=1 2=0
ETHNICITY T4	Having an ethnic affiliation	Categorical 1= aymara 2= rapa nui 3=quechua 4= mapuche 5=atacameño 6=coya 7=Kawaskar 8=yagan 9=diaguita 10= none	Dummy 1=1 2=1 3=1 4=1 5=1 6=1 7=1 8=1 9=1 10=0
URBAN Z	Living in urban area**	Dichotomous 1=urban 2=rural	Dummy 1=1 2=0
CAPITAL REGION	Living in the Capital of Chile	Categorical 1= I Region 2= II Region 3= III Region 4= IV Region 5= V Region 6= VI Region 7= VII Region 8=VIII Region 9= IX Region 10= X Region 11 XI Region 12=XII Region 13=XIII Region 14= XIV Region 15= XV Region	Dummy 1=0 2=0 3=0 4=0 5=0 6=0 7=0 8=0 9=0 10=0 11=0 12=0 13=1 14=0 15=0

Original variable names are shown in brackets

### APPENDIX 5.1 Re-coding SWB variables scale for correlational and descriptive analyses

	Original scale	Recoding scale (%)
Life Satisfaction	1 Dissatisfied	0
	2	11
	3	22
	4	33
	5	44
	6	56
	7	67
	8	78
	9	89
	10 Satisfied	100
Happiness	1“Very happy”	100

	2	67
	3	33
	4 “Not at all happy”	0
Freedom of choice and control on own life	1“None at all”	0
	2	11
	3	22
	4	33
	5	44
	6	56
	7	67
	8	78
	9	89
		10“a great deal”
Meaning and purpose in the life	1“Often”	100
	2	67
	3	33
	4 “never”	0

Based on the procedure proposed by Kelley and Evans (2017, p.7)

## APPENDIX 5.2 MIMIC model examining SWB as latent construct

TITLE: CFA testing hedonic and eudaimonic well-being

DATA:

FILE= chilerq1.dat;

VARIABLE:

NAMES ARE

YEAR YEAR2 YEAR3 YEAR4 YEAR5 YEAR6 COUNTRY1  
FREEDOM2 ESATISF3 SATISF3 FREEDOM3 HAPPY2 PURPOSE2  
SATISF HAPPY ESATISF HEALTH FREEDOM FREEDOM  
PURPOSE PURPOSEP TRUST AGE AGECEC YOUNGER MIDLIFE OLDER  
MSTATUS PARTNER ALONE WIDOW SINGLE MAN EDUC EDUCR  
PRIMARY SECONDARY HEDUCATION OCUP EMPLOYED FTIME  
PTIME SELF RETIRED HWIFE UNEMPL HSKILLED SKILLED  
NONSKILL CHILDREN NCHILDREN DECILE DEC1 DEC2 DEC3  
DEC4 DEC5 DEC6 DEC7 DEC8 DEC9 DEC10 QUINTILE  
QUINTIL1 QUINTIL2 QUINTIL3 QUINTIL4 QUINTIL5 CLASS  
INEQUAL ECLASS CAPITAL EMANC2  
AUTON2 EQUALIT2 CHOICE2 VOICE2  
;

MISSING ARE ALL (-9);

USEVARIABLES ARE

SATISF HAPPY FREEDOM PURPOSE  
YOUNGER OLDER PARTNER MAN  
FTIME PTIME SELF RETIRED UNEMPL CHILDREN  
QUINTIL1 QUINTIL2 QUINTIL4  
QUINTIL5 HEDUCATION  
YEAR4 YEAR5 YEAR6  
;

CATEGORICAL ARE

SATISF HAPPY FREEDOM PURPOSE;

analysis:

TYPE= GENERAL;  
ITERATIONS=10000;

model:

SWB BY SATISF HAPPY FREEDOM PURPOSE;

SWB ON YOUNGER OLDER PARTNER  
FTIME PTIME SELF MAN RETIRED  
UNEMPL CHILDREN QUINTIL1 QUINTIL2 QUINTIL4  
QUINTIL5 HEDUCATION YEAR4 YEAR5 YEAR6;

output: standardized (stdy) CINTERVAL;

CFA testing hedonic and eudaimonic well-being

SUMMARY OF ANALYSIS

Number of groups	1
Number of observations	3891
Number of dependent variables	4
Number of independent variables	18
Number of continuous latent variables	1



Degrees of Freedom 78  
P-Value 0.0000

WRMR (Weighted Root Mean Square Residual)

Value 1.236

MODEL RESULTS

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
<b>SWB BY</b>				
SATISF	1.000	0.000	999.000	999.000
HAPPY	0.856	0.054	15.817	0.000
FREEDOM	0.732	0.047	15.626	0.000
PURPOSE	0.185	0.038	4.867	0.000
<b>SWB ON</b>				
YOUNGER	0.092	0.046	1.999	0.046
OLDER	0.069	0.059	1.179	0.239
PARTNER	0.232	0.041	5.601	0.000
FTIME	0.005	0.046	0.113	0.910
PTIME	-0.026	0.074	-0.348	0.728
SELF	0.013	0.064	0.200	0.842
MAN	0.044	0.039	1.143	0.253
RETIRED	-0.191	0.080	-2.390	0.017
UNEMPL	-0.280	0.077	-3.640	0.000
CHILDREN	-0.159	0.052	-3.055	0.002
QUINTIL1	-0.471	0.050	-9.475	0.000
QUINTIL2	-0.228	0.047	-4.869	0.000
QUINTIL4	0.212	0.058	3.654	0.000
QUINTIL5	0.508	0.089	5.699	0.000
HEDUCATION	0.136	0.050	2.710	0.007
YEAR4	0.156	0.046	3.376	0.001
YEAR5	0.230	0.050	4.583	0.000
YEAR6	0.215	0.052	4.147	0.000
<b>Thresholds</b>				
SATISF\$1	-1.178	0.082	-14.400	0.000
SATISF\$2	0.227	0.080	2.850	0.004
HAPPY\$1	-0.782	0.102	-7.638	0.000
FREEDOM\$1	-0.388	0.088	-4.392	0.000
PURPOSE\$1	-1.070	0.102	-10.484	0.000
<b>Residual Variances</b>				
SWB	0.575	0.039	14.629	0.000

STANDARDIZED MODEL RESULTS

STDY Standardization

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
<b>SWB BY</b>				
SATISF	0.788	0.023	33.638	0.000
HAPPY	0.684	0.026	26.155	0.000
FREEDOM	0.591	0.024	24.187	0.000
PURPOSE	0.154	0.031	4.999	0.000
<b>SWB ON</b>				
YOUNGER	0.111	0.055	2.000	0.045
OLDER	0.083	0.070	1.178	0.239
PARTNER	0.278	0.049	5.658	0.000
FTIME	0.006	0.056	0.113	0.910
PTIME	-0.031	0.089	-0.347	0.728
SELF	0.015	0.077	0.200	0.842
MAN	0.053	0.047	1.144	0.253
RETIRED	-0.229	0.096	-2.394	0.017
UNEMPL	-0.336	0.092	-3.657	0.000
CHILDREN	-0.191	0.062	-3.062	0.002
QUINTIL1	-0.566	0.057	-9.892	0.000
QUINTIL2	-0.273	0.056	-4.914	0.000
QUINTIL4	0.255	0.069	3.685	0.000
QUINTIL5	0.609	0.105	5.824	0.000
HEDUCATION	0.163	0.060	2.724	0.006
YEAR4	0.188	0.055	3.390	0.001
YEAR5	0.276	0.060	4.618	0.000
YEAR6	0.258	0.062	4.173	0.000
<b>Thresholds</b>				
SATISF\$1	-1.113	0.078	-14.279	0.000
SATISF\$2	0.215	0.075	2.854	0.004
HAPPY\$1	-0.750	0.098	-7.624	0.000
FREEDOM\$1	-0.377	0.086	-4.384	0.000
PURPOSE\$1	-1.068	0.102	-10.478	0.000
<b>Residual Variances</b>				
SWB	0.829	0.016	53.307	0.000

R-SQUARE

Observed Variable	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value	Residual Variance
SATISF	0.620	0.037	16.819	0.000	0.425

HAPPY	0.468	0.036	13.077	0.000	0.578
FREEDOM	0.350	0.029	12.093	0.000	0.692
PURPOSE	0.024	0.009	2.500	0.012	0.980

Latent Variable	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
SWB	0.171	0.016	11.002	0.000

QUALITY OF NUMERICAL RESULTS

Condition Number for the Information Matrix (ratio of smallest to largest eigenvalue) 0.202E-01

CONFIDENCE INTERVALS OF MODEL RESULTS

	Lower .5%	Lower 2.5%	Lower 5%	Estimate	Upper 5%	Upper 2.5%	Upper .5%
SWB BY							
SATISF	1.000	1.000	1.000	1.000	1.000	1.000	1.000
HAPPY	0.717	0.750	0.767	0.856	0.945	0.963	0.996
FREEDOM	0.611	0.640	0.655	0.732	0.809	0.824	0.852
PURPOSE	0.087	0.111	0.123	0.185	0.248	0.260	0.283
SWB ON							
YOUNGER	-0.027	0.002	0.016	0.092	0.168	0.183	0.211
OLDER	-0.082	-0.046	-0.027	0.069	0.165	0.184	0.220
PARTNER	0.125	0.151	0.164	0.232	0.300	0.313	0.339
FTIME	-0.114	-0.086	-0.071	0.005	0.082	0.096	0.125
PTIME	-0.218	-0.172	-0.148	-0.026	0.097	0.120	0.166
SELF	-0.153	-0.113	-0.093	0.013	0.119	0.139	0.179
MAN	-0.056	-0.032	-0.020	0.044	0.108	0.121	0.145
RETIRED	-0.396	-0.347	-0.322	-0.191	-0.059	-0.034	0.015
UNEMPL	-0.478	-0.431	-0.407	-0.280	-0.154	-0.129	-0.082
CHILDREN	-0.293	-0.261	-0.245	-0.159	-0.073	-0.057	-0.025
QUINTIL1	-0.600	-0.569	-0.553	-0.471	-0.390	-0.374	-0.343
QUINTIL2	-0.348	-0.319	-0.305	-0.228	-0.151	-0.136	-0.107
QUINTIL4	0.063	0.098	0.117	0.212	0.308	0.326	0.362
QUINTIL5	0.278	0.333	0.361	0.508	0.654	0.682	0.737
HEDUCATION	0.007	0.038	0.053	0.136	0.218	0.234	0.265
YEAR4	0.037	0.066	0.080	0.156	0.233	0.247	0.276
YEAR5	0.101	0.132	0.148	0.230	0.313	0.329	0.360
YEAR6	0.081	0.113	0.130	0.215	0.300	0.316	0.348
Thresholds							
SATISF\$	-1.388	-1.338	-1.312	-1.178	-1.043	-1.017	-0.967
SATISF\$	0.022	0.071	0.096	0.227	0.359	0.384	0.433
HAPPY\$1	-1.045	-0.982	-0.950	-0.782	-0.613	-0.581	-0.518
FREEDOM	-0.616	-0.562	-0.534	-0.388	-0.243	-0.215	-0.161
PURPOSE	-1.333	-1.270	-1.238	-1.070	-0.902	-0.870	-0.807
Residual Variances							
SWB	0.474	0.498	0.511	0.575	0.640	0.652	0.677

CONFIDENCE INTERVALS OF STANDARDIZED MODEL RESULTS

STDY Standardization

	Lower .5%	Lower 2.5%	Lower 5%	Estimate	Upper 5%	Upper 2.5%	Upper .5%
SWB BY							
SATISF	0.727	0.742	0.749	0.788	0.826	0.834	0.848
HAPPY	0.617	0.633	0.641	0.684	0.727	0.736	0.752
FREEDOM	0.528	0.543	0.551	0.591	0.631	0.639	0.654
PURPOSE	0.075	0.094	0.103	0.154	0.205	0.214	0.233
SWB ON							
YOUNGER	-0.032	0.002	0.020	0.111	0.202	0.219	0.254
OLDER	-0.098	-0.055	-0.033	0.083	0.198	0.221	0.264
PARTNER	0.152	0.182	0.197	0.278	0.359	0.375	0.405
FTIME	-0.137	-0.103	-0.085	0.006	0.098	0.116	0.150
PTIME	-0.261	-0.206	-0.178	-0.031	0.116	0.144	0.199
SELF	-0.184	-0.136	-0.112	0.015	0.143	0.167	0.215
MAN	-0.067	-0.038	-0.023	0.053	0.130	0.145	0.174
RETIRED	-0.475	-0.416	-0.386	-0.229	-0.072	-0.041	0.017
UNEMPL	-0.573	-0.517	-0.488	-0.336	-0.185	-0.156	-0.099
CHILDREN	-0.352	-0.313	-0.294	-0.191	-0.088	-0.069	-0.030
QUINTIL1	-0.713	-0.678	-0.660	-0.566	-0.472	-0.454	-0.418
QUINTIL2	-0.417	-0.382	-0.365	-0.273	-0.182	-0.164	-0.130
QUINTIL4	0.077	0.119	0.141	0.255	0.368	0.390	0.433
QUINTIL5	0.340	0.404	0.437	0.609	0.782	0.815	0.879
HEDUCATION	0.009	0.046	0.065	0.163	0.262	0.281	0.317
YEAR4	0.045	0.079	0.097	0.188	0.279	0.296	0.330
YEAR5	0.122	0.159	0.178	0.276	0.375	0.394	0.431
YEAR6	0.099	0.137	0.156	0.258	0.360	0.379	0.417
Thresholds							
SATISF\$	-1.314	-1.266	-1.242	-1.113	-0.985	-0.961	-0.913
SATISF\$	0.021	0.067	0.091	0.215	0.339	0.363	0.409
HAPPY\$1	-1.003	-0.943	-0.912	-0.750	-0.588	-0.557	-0.496
FREEDOM	-0.598	-0.545	-0.518	-0.377	-0.235	-0.208	-0.155
PURPOSE	-1.330	-1.267	-1.235	-1.068	-0.900	-0.868	-0.805
Residual Variances							
SWB	0.789	0.798	0.803	0.829	0.855	0.859	0.869

## APPENDIX 5.3 CFA examining EUDA and HEDOC well-being dimensions

```

TITLE: CFA testing hedonic and eudaimonic well-being
DATA:
  FILE= chilerq1.dat;

VARIABLE:
  NAMES ARE

  YEAR YEAR2 YEAR3 YEAR4 YEAR5 YEAR6 COUNTRY1
  FREEDOM2 ESATISF3 SATISF3 FREEDOM3 HAPPY2 PURPOSE2
  SATISF HAPPY ESATISF HEALTH FREEDOM FREEDOMP
  PURPOSE PURPOSEP TRUST AGE AGEY YOUNGER MIDLIFE OLDER
  MSTATUS PARTNER ALONE WIDOW SINGLE MAN EDUC EDUCR
  PRIMARY SECONDARY HEDUCATION OCUP EMPLOYED FTIME
  PTIME SELF RETIRED HWIFE UNEMPL HSKILLED SKILLED
  NONSKILL CHILDREN NCHILDREN DECILE DEC1 DEC2 DEC3
  DEC4 DEC5 DEC6 DEC7 DEC8 DEC9 DEC10 QUINTILE
  QUINTIL1 QUINTIL2 QUINTIL3 QUINTIL4 QUINTIL5 CLASS
  INEQUAL ECLASS CAPITAL EMANC2
  AUTON2 EQUALIT2 CHOICE2 VOICE2
  ;

MISSING ARE ALL (-9);

USEVARIABLES ARE

  SATISF HAPPY
  FREEDOM PURPOSE
  YOUNGER OLDER PARTNER MAN
  FTIME PTIME SELF RETIRED UNEMPL CHILDREN
  QUINTIL1 QUINTIL2 QUINTIL4
  QUINTIL5 HEDUCATION
  YEAR4 YEAR5 YEAR6
  ;

CATEGORICAL ARE

  SATISF HAPPY
  FREEDOM PURPOSE;

analysis:
TYPE= GENERAL;
ITERATIONS=10000;
ESTIMATOR= wlsmv;

model:
HEDOC BY SATISF HAPPY;
EUDA BY FREEDOM PURPOSE;

SWB BY HEDOC@1 EUDA@1;
SWB@1;

HEDOC WITH EUDA;

HEDOC ON YOUNGER OLDER PARTNER MAN
FTIME PTIME SELF RETIRED
UNEMPL CHILDREN QUINTIL1 QUINTIL2 QUINTIL4
QUINTIL5 HEDUCATION YEAR4 YEAR5 YEAR6;

EUDA ON YOUNGER OLDER PARTNER MAN
FTIME PTIME SELF RETIRED
UNEMPL CHILDREN QUINTIL1 QUINTIL2 QUINTIL4
QUINTIL5 HEDUCATION YEAR4 YEAR5 YEAR6;

output:  standardized (stdy) CINTERVAL;

Savedata:
  file is scores.txt;
  save = fscores;

CFA testing hedonic and eudaimonic well-being

SUMMARY OF ANALYSIS

Number of groups 1
Number of observations 3891

Number of dependent variables 4
Number of independent variables 18
Number of continuous latent variables 3

Observed dependent variables

  Binary and ordered categorical (ordinal)
  SATISF HAPPY FREEDOM PURPOSE

Observed independent variables
  YOUNGER OLDER PARTNER MAN FTIME PTIME
  SELF RETIRED UNEMPL CHILDREN QUINTIL1 QUINTIL2
  QUINTIL4 QUINTIL5 HEDUCATI YEAR4 YEAR5 YEAR6

Continuous latent variables

```



HEDOC	BY				
SATISF		1.000	0.000	999.000	999.000
HAPPY		0.852	0.057	15.074	0.000
EUDA	BY				
FREEDOM		1.000	0.000	999.000	999.000
PURPOSE		0.246	0.052	4.719	0.000
SWB	BY				
HEDOC		1.000	0.000	999.000	999.000
EUDA		0.300	0.042	5.425	0.000
HEDOC	ON				
YOUNGER		0.135	0.049	2.749	0.006
OLDER		0.030	0.059	0.502	0.616
PARTNER		0.249	0.043	5.826	0.000
MAN		0.045	0.041	1.097	0.273
FTIME		-0.008	0.049	-0.156	0.876
PTIME		-0.021	0.078	-0.270	0.787
SELF		-0.015	0.067	-0.222	0.824
RETIRED		-0.212	0.081	-2.618	0.009
UNEMPL		-0.373	0.082	-4.546	0.000
CHILDREN		-0.125	0.055	-2.272	0.023
QUINTIL1		-0.420	0.052	-8.131	0.000
QUINTIL2		-0.196	0.049	-3.981	0.000
QUINTIL4		0.207	0.061	3.398	0.001
QUINTIL5		0.532	0.098	5.460	0.000
HEDUCATION		0.139	0.053	2.622	0.009
YEAR4		0.146	0.049	3.018	0.003
YEAR5		0.263	0.053	4.951	0.000
YEAR6		0.241	0.055	4.366	0.000
EUDA	ON				
YOUNGER		-0.030	0.058	-0.529	0.596
OLDER		0.150	0.073	2.059	0.039
PARTNER		0.126	0.052	2.440	0.015
MAN		0.031	0.048	0.650	0.516
FTIME		0.033	0.057	0.570	0.569
PTIME		-0.029	0.088	-0.328	0.743
SELF		0.074	0.080	0.920	0.358
RETIRED		-0.085	0.099	-0.858	0.391
UNEMPL		0.052	0.098	0.527	0.598
CHILDREN		-0.201	0.066	-3.068	0.002
QUINTIL1		-0.468	0.060	-7.747	0.000
QUINTIL2		-0.239	0.057	-4.218	0.000
QUINTIL4		0.166	0.069	2.392	0.017
QUINTIL5		0.322	0.112	2.861	0.004
HEDUCATION		0.093	0.060	1.552	0.121
YEAR4		0.139	0.058	2.392	0.017
YEAR5		0.095	0.062	1.514	0.130
YEAR6		0.102	0.063	1.611	0.107
HEDOC	WITH				
EUDA		-0.585	0.020	-29.362	0.000
Thresholds					
SATISF\$1		-1.178	0.082	-14.406	0.000
SATISF\$2		0.227	0.080	2.842	0.004
HAPPY\$1		-0.782	0.102	-7.639	0.000
FREEDOM\$1		-0.388	0.088	-4.390	0.000
PURPOSE\$1		-1.069	0.102	-10.480	0.000
Variances					
SWB		1.000	0.000	999.000	999.000
Residual Variances					
HEDOC		-0.415	0.043	-9.554	0.000
EUDA		-0.502	0.136	-3.682	0.000

#### STANDARDIZED MODEL RESULTS

##### STDY Standardization

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
HEDOC				
BY				
SATISF	0.793	0.025	31.436	0.000
HAPPY	0.686	0.027	25.710	0.000
EUDA				
BY				
FREEDOM	0.731	0.087	8.420	0.000
PURPOSE	0.186	0.033	5.666	0.000
SWB				
BY				
HEDOC	0.494	0.036	13.588	0.000
EUDA	0.637	0.127	5.012	0.000
HEDOC				
ON				
YOUNGER	0.161	0.059	2.753	0.006
OLDER	0.036	0.071	0.502	0.616
PARTNER	0.297	0.051	5.874	0.000
MAN	0.054	0.049	1.098	0.272
FTIME	-0.009	0.059	-0.156	0.876
PTIME	-0.025	0.093	-0.270	0.787
SELF	-0.018	0.080	-0.222	0.824
RETIRED	-0.253	0.097	-2.621	0.009
UNEMPL	-0.445	0.098	-4.552	0.000
CHILDREN	-0.149	0.066	-2.273	0.023
QUINTIL1	-0.501	0.060	-8.290	0.000

QUINTIL2	-0.234	0.059	-3.996	0.000
QUINTIL4	0.247	0.072	3.413	0.001
QUINTIL5	0.635	0.115	5.517	0.000
HEDUCATION	0.165	0.063	2.630	0.009
YEAR4	0.175	0.058	3.025	0.002
YEAR5	0.314	0.063	4.981	0.000
YEAR6	0.287	0.065	4.388	0.000
EUDA ON				
YOUNGER	-0.040	0.076	-0.529	0.597
OLDER	0.197	0.099	2.000	0.046
PARTNER	0.167	0.071	2.356	0.018
MAN	0.041	0.063	0.649	0.516
FTIME	0.043	0.076	0.569	0.570
PTIME	-0.038	0.117	-0.328	0.743
SELF	0.097	0.106	0.914	0.361
RETIRED	-0.112	0.131	-0.853	0.394
UNEMPL	0.068	0.130	0.525	0.600
CHILDREN	-0.266	0.091	-2.908	0.004
QUINTIL1	-0.617	0.104	-5.920	0.000
QUINTIL2	-0.316	0.082	-3.829	0.000
QUINTIL4	0.219	0.094	2.323	0.020
QUINTIL5	0.424	0.155	2.730	0.006
HEDUCATION	0.123	0.080	1.536	0.124
YEAR4	0.184	0.080	2.300	0.021
YEAR5	0.125	0.084	1.488	0.137
YEAR6	0.134	0.085	1.583	0.114
HEDOC WITH				
EUDA	0.772	0.183	4.227	0.000
Thresholds				
SATISF\$1	-1.114	0.078	-14.244	0.000
SATISF\$2	0.214	0.075	2.849	0.004
HAPPY\$1	-0.750	0.099	-7.610	0.000
FREEDOM\$1	-0.374	0.085	-4.394	0.000
PURPOSE\$1	-1.067	0.102	-10.483	0.000
Variances				
SWB	1.000	0.000	999.000	999.000
Residual Variances				
HEDOC	0.583	0.046	12.718	0.000
EUDA	0.438	0.194	2.257	0.024

R-SQUARE

Observed Variable	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value	Residual Variance
SATISF	0.629	0.040	15.718	0.000	0.415
HAPPY	0.470	0.037	12.855	0.000	0.575
FREEDOM	0.534	0.127	4.210	0.000	0.502
PURPOSE	0.035	0.012	2.833	0.005	0.970
Latent Variable	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value	
HEDOC	0.417	0.046	9.081	0.000	
EUDA	0.562	0.194	2.894	0.004	

QUALITY OF NUMERICAL RESULTS

Condition Number for the Information Matrix 0.115E-01  
(ratio of smallest to largest eigenvalue)

CONFIDENCE INTERVALS OF MODEL RESULTS

	Lower .5%	Lower 2.5%	Lower 5%	Estimate	Upper 5%	Upper 2.5%	Upper .5%
HEDOC BY							
SATISF	1.000	1.000	1.000	1.000	1.000	1.000	1.000
HAPPY	0.707	0.742	0.759	0.852	0.945	0.963	0.998
EUDA BY							
FREEDOM	1.000	1.000	1.000	1.000	1.000	1.000	1.000
PURPOSE	0.112	0.144	0.160	0.246	0.332	0.349	0.381
SWB BY							
HEDOC	1.000	1.000	1.000	1.000	1.000	1.000	1.000
EUDA	1.000	1.000	1.000	1.000	1.000	1.000	1.000
HEDOC ON							
YOUNGER	0.009	0.039	0.054	0.135	0.216	0.232	0.262
OLDER	-0.123	-0.087	-0.068	0.030	0.127	0.146	0.183
PARTNER	0.139	0.165	0.179	0.249	0.319	0.333	0.359
MAN	-0.061	-0.036	-0.023	0.045	0.113	0.126	0.152
FTIME	-0.135	-0.105	-0.089	-0.008	0.074	0.089	0.120
PTIME	-0.223	-0.175	-0.150	-0.021	0.108	0.132	0.181
SELF	-0.189	-0.147	-0.126	-0.015	0.096	0.117	0.159
RETIRED	-0.421	-0.371	-0.346	-0.212	-0.079	-0.053	-0.003
UNEMPL	-0.584	-0.533	-0.508	-0.373	-0.238	-0.212	-0.162
CHILDREN	-0.266	-0.233	-0.215	-0.125	-0.034	-0.017	0.017
QUINTIL1	-0.553	-0.521	-0.505	-0.420	-0.335	-0.319	-0.287
QUINTIL2	-0.323	-0.293	-0.277	-0.196	-0.115	-0.100	-0.069
QUINTIL4	0.050	0.088	0.107	0.207	0.307	0.326	0.364
QUINTIL5	0.281	0.341	0.372	0.532	0.693	0.724	0.784
HEDUCATION	0.002	0.035	0.052	0.139	0.225	0.242	0.275

YEAR4	0.021	0.051	0.067	0.146	0.226	0.242	0.272
YEAR5	0.126	0.159	0.176	0.263	0.351	0.367	0.400
YEAR6	0.099	0.133	0.150	0.241	0.331	0.349	0.383
EUDA ON							
YOUNGER	-0.179	-0.143	-0.125	-0.030	0.064	0.082	0.118
OLDER	-0.038	0.007	0.030	0.150	0.269	0.292	0.337
PARTNER	-0.007	0.025	0.041	0.126	0.212	0.228	0.260
MAN	-0.092	-0.063	-0.048	0.031	0.110	0.125	0.155
FTIME	-0.115	-0.080	-0.062	0.033	0.127	0.145	0.180
PTIME	-0.257	-0.202	-0.174	-0.029	0.116	0.144	0.199
SELF	-0.133	-0.083	-0.058	0.074	0.206	0.231	0.280
RETIRED	-0.341	-0.279	-0.248	-0.085	0.078	0.109	0.170
UNEMPL	-0.201	-0.141	-0.110	0.052	0.213	0.244	0.305
CHILDREN	-0.371	-0.330	-0.309	-0.201	-0.093	-0.073	-0.032
QUINTIL1	-0.623	-0.586	-0.567	-0.468	-0.369	-0.349	-0.312
QUINTIL2	-0.386	-0.351	-0.333	-0.239	-0.146	-0.128	-0.093
QUINTIL4	-0.013	0.030	0.052	0.166	0.280	0.302	0.345
QUINTIL5	0.032	0.101	0.137	0.322	0.507	0.542	0.612
HEDUCATION	-0.062	-0.025	-0.006	0.093	0.193	0.212	0.249
YEAR4	-0.011	0.025	0.044	0.139	0.235	0.253	0.289
YEAR5	-0.066	-0.028	-0.008	0.095	0.197	0.217	0.256
YEAR6	-0.061	-0.022	-0.002	0.102	0.206	0.225	0.264
HEDOC WITH							
EUDA	0.423	0.619	0.719	-0.585	-0.552	-0.546	-0.534
Thresholds							
SATISF\$	-1.389	-1.339	-1.313	-1.178	-1.044	-1.018	-0.968
SATISF\$	0.021	0.070	0.096	0.227	0.358	0.383	0.432
HAPPY\$1	-1.046	-0.982	-0.950	-0.782	-0.613	-0.581	-0.518
FREEDOM	-0.616	-0.561	-0.534	-0.388	-0.243	-0.215	-0.160
PURPOSE	-1.332	-1.269	-1.237	-1.069	-0.902	-0.869	-0.807
Variances							
SWB	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Residual Variances							
HEDOC	0.527	0.500	0.486	0.415	0.343	0.330	0.303
EUDA	0.853	0.769	0.726	0.502	0.278	0.235	0.151

CONFIDENCE INTERVALS OF STANDARDIZED MODEL RESULTS

STDY Standardization

	Lower .5%	Lower 2.5%	Lower 5%	Estimate	Upper 5%	Upper 2.5%	Upper .5%
HEDOC BY							
SATISF	0.728	0.744	0.751	0.793	0.834	0.842	0.858
HAPPY	0.617	0.634	0.642	0.686	0.730	0.738	0.755
EUDA BY							
FREEDOM	0.507	0.561	0.588	0.731	0.874	0.901	0.955
PURPOSE	0.102	0.122	0.132	0.186	0.241	0.251	0.271
SWB BY							
HEDOC	0.400	0.423	0.434	0.494	0.554	0.565	0.588
EUDA	0.310	0.388	0.428	0.637	0.846	0.886	0.964
HEDOC ON							
YOUNGER	0.010	0.046	0.065	0.161	0.258	0.276	0.312
OLDER	-0.147	-0.103	-0.081	0.036	0.152	0.174	0.218
PARTNER	0.167	0.198	0.214	0.297	0.380	0.396	0.427
MAN	-0.073	-0.043	-0.027	0.054	0.135	0.151	0.181
FTIME	-0.161	-0.125	-0.106	-0.009	0.088	0.106	0.143
PTIME	-0.266	-0.208	-0.179	-0.025	0.128	0.158	0.215
SELF	-0.225	-0.176	-0.150	-0.018	0.114	0.140	0.189
RETIRED	-0.502	-0.443	-0.412	-0.253	-0.094	-0.064	-0.004
UNEMPL	-0.696	-0.636	-0.605	-0.445	-0.284	-0.253	-0.193
CHILDREN	-0.318	-0.277	-0.257	-0.149	-0.041	-0.021	0.020
QUINTIL1	-0.656	-0.619	-0.600	-0.501	-0.401	-0.382	-0.345
QUINTIL2	-0.385	-0.349	-0.330	-0.234	-0.138	-0.119	-0.083
QUINTIL4	0.061	0.105	0.128	0.247	0.366	0.388	0.433
QUINTIL5	0.339	0.409	0.446	0.635	0.824	0.861	0.931
HEDUCATION	0.003	0.042	0.062	0.165	0.269	0.288	0.327
YEAR4	0.026	0.062	0.080	0.175	0.270	0.288	0.324
YEAR5	0.152	0.190	0.210	0.314	0.418	0.438	0.476
YEAR6	0.119	0.159	0.179	0.287	0.395	0.415	0.455
EUDA ON							
YOUNGER	-0.236	-0.189	-0.165	-0.040	0.085	0.109	0.156
OLDER	-0.057	0.004	0.035	0.197	0.360	0.391	0.451
PARTNER	-0.016	0.028	0.050	0.167	0.283	0.305	0.349
MAN	-0.122	-0.083	-0.063	0.041	0.145	0.165	0.204
FTIME	-0.152	-0.105	-0.082	0.043	0.168	0.192	0.238
PTIME	-0.338	-0.267	-0.230	-0.038	0.153	0.190	0.262
SELF	-0.177	-0.111	-0.078	0.097	0.272	0.306	0.371
RETIRED	-0.451	-0.370	-0.328	-0.112	0.104	0.145	0.226
UNEMPL	-0.266	-0.186	-0.145	0.068	0.282	0.323	0.403
CHILDREN	-0.501	-0.444	-0.416	-0.266	-0.115	-0.087	-0.030
QUINTIL1	-0.885	-0.821	-0.788	-0.617	-0.445	-0.412	-0.348
QUINTIL2	-0.528	-0.477	-0.451	-0.316	-0.180	-0.154	-0.103
QUINTIL4	-0.024	0.034	0.064	0.219	0.374	0.403	0.461
QUINTIL5	0.024	0.120	0.169	0.424	0.680	0.729	0.824
HEDUCATION	-0.083	-0.034	-0.009	0.123	0.255	0.280	0.330
YEAR4	-0.022	0.027	0.052	0.184	0.315	0.340	0.389
YEAR5	-0.091	-0.040	-0.013	0.125	0.263	0.289	0.341
YEAR6	-0.084	-0.032	-0.005	0.134	0.273	0.300	0.352
HEDOC WITH							

EUDA	0.302	0.414	0.472	0.772	0.860	0.930	0.980
Thresholds							
SATISF\$	-1.316	-1.268	-1.243	-1.114	-0.986	-0.961	-0.913
SATISF\$	0.021	0.067	0.091	0.214	0.338	0.362	0.408
HAPPY\$1	-1.004	-0.944	-0.913	-0.750	-0.588	-0.557	-0.496
FREEDOM	-0.593	-0.541	-0.514	-0.374	-0.234	-0.207	-0.155
PURPOSE	-1.329	-1.266	-1.234	-1.067	-0.899	-0.867	-0.805
Variances							
SWB	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Residual Variances							
HEDOC	0.465	0.494	0.508	0.583	0.659	0.673	0.702
EUDA	-0.062	0.058	0.119	0.438	0.758	0.819	0.938

## APPENDIX 6.1 Effect of Confidence and Trust on life satisfaction

```

TITLE: Exploring the impact of national context on swb
DATA:
  FILE= nationswb.dat;

VARIABLE:
  NAMES ARE

  WAVE YEAR2 YEAR3 YEAR4 YEAR5 YEAR6 HEDOC EUDA
  FREEDOM2 ESATISF3 SATISF3 FREEDOM3 HAPPY2 PURPOSE2
  SATISF HAPPY ESATISF HEALTH FREEDOM FREEDOM3
  PURPOSE PURPOSEP TRUST AGE YOUNGER MIDLIFE OLDER
  PARTNER ALONE WIDOW SINGLE MAN PRIMARY SECONDARY
  HEDUCATION EMPLOYED FTIME PTIME SELF RETIRED
  UNEMPL HSKILLED SKILLED NONSKILL CHILDREN
  QUINTILE QUINTIL1 QUINTIL2 QUINTIL3 QUINTIL4 QUINTIL5
  CAPITAL TRUSTED CHURCHE ARMY PRESS LABOUR POLICE
  PARLAM CIVIL GOVERN PPARTY COMPANY ENVIRON WOMEN
  JUSTICE EQJOB EQPOLIT EQEDUC HOMOSEX PROST
  ABORT DIVORCE EUTHA SUICIDE INCOMEI EGROWTH VOICECH
  SOCHANGE GOVRESP WEALTH RIGHTS EQUALS EQJOB2
  EQPOLIT2 EQEDUC2 RIGHTS2 GENDER ELECTION VOICES
  EQJOBIN EQPOLITIN EQEDUCIN EQINCOME EQGOV EQWEALTH
  ;

MISSING ARE ALL (-9);

USEVARIABLES ARE

SATISF
ARMY PARLAM POLICE
GOVERN PPARTY CIVIL
YOUNGER OLDER PARTNER
MAN HEDUCATION RETIRED UNEMPL CHILDREN
QUINTIL1 QUINTIL2 QUINTIL4
QUINTIL5 YEAR3 YEAR6 YEARS
TRUSTED RIGHTS2 EQGOV EQUALS
;

CATEGORICAL ARE

SATISF
ARMY PARLAM POLICE
GOVERN PPARTY CIVIL
TRUSTED RIGHTS2 EQGOV EQUALS
;

analysis:
TYPE = GENERAL;

MODEL:

CONFID BY ARMY POLICE PARLAM CIVIL
GOVERN PPARTY;

TRUST BY TRUSTED RIGHTS2 EQGOV EQUALS;

CONFID WITH TRUST;

Satisf3 ON CONFID TRUST;

TRUST ON YOUNGER OLDER PARTNER MAN HEDUCATION RETIRED
UNEMPL CHILDREN QUINTIL1 QUINTIL2 QUINTIL4 QUINTIL5 YEAR3 YEAR6 YEARS;

CONFID ON YOUNGER OLDER PARTNER MAN HEDUCATION RETIRED
UNEMPL CHILDREN QUINTIL1 QUINTIL2 QUINTIL4 QUINTIL5 YEAR3 YEAR6 YEARS;

output: standardized (stdy) cinterval;
Exploring the impact of national context on life satisfaction

SUMMARY OF ANALYSIS

Number of groups 1
Number of observations 3891

Number of dependent variables 11
Number of independent variables 15

```

Number of continuous latent variables 2

Observed dependent variables

Binary and ordered categorical (ordinal)  
 SATISF ARMY PARLAM POLICE GOVERN PPARTY  
 CIVIL TRUSTED RIGHTS2 EQGOV EQUALS

Observed independent variables

YOUNGER OLDER PARTNER MAN HEDUCATI RETIRED  
 UNEMPL CHILDREN QUINTIL1 QUINTIL2 QUINTIL4 QUINTIL5  
 YEAR3 YEAR6 YEARS

Continuous latent variables

CONFID TRUST

Estimator WLSMV  
 Maximum number of iterations 1000  
 Convergence criterion 0.500D-04  
 Maximum number of steepest descent iterations 20  
 Maximum number of iterations for H1 2000  
 Convergence criterion for H1 0.100D-03  
 Parameterization DELTA

Input data file(s)  
 nationswb.dat

Input data format FREE

SUMMARY OF DATA

Number of missing data patterns 103

COVARIANCE COVERAGE OF DATA

Minimum covariance coverage value 0.100

PROPORTION OF DATA PRESENT

	Covariance	Coverage			
	SATISF	ARMY	PARLAM	POLICE	GOVERN
SATISF	0.993				
ARMY	0.980	0.987			
PARLAM	0.969	0.966	0.975		
POLICE	0.983	0.979	0.969	0.990	
GOVERN	0.978	0.975	0.968	0.978	0.985
PPARTY	0.973	0.969	0.965	0.972	0.972
CIVIL	0.965	0.961	0.960	0.965	0.963
TRUSTED	0.971	0.964	0.952	0.967	0.962
RIGHTS2	0.736	0.733	0.726	0.734	0.734
EQGOV	0.983	0.977	0.967	0.980	0.976
EQUALS	0.488	0.484	0.479	0.486	0.485

	Covariance	Coverage			
	PPARTY	CIVIL	TRUSTED	RIGHTS2	EQGOV
PPARTY	0.979				
CIVIL	0.959	0.971			
TRUSTED	0.958	0.949	0.976		
RIGHTS2	0.728	0.725	0.724	0.742	
EQGOV	0.970	0.963	0.967	0.736	0.990
EQUALS	0.479	0.478	0.479	0.267	0.487

Covariance Coverage  
 EQUALS

EQUALS 0.490

UNIVARIATE PROPORTIONS AND COUNTS FOR CATEGORICAL VARIABLES

SATISF		
Category 1	0.101	390.000
Category 2	0.428	1654.000
Category 3	0.471	1820.000
ARMY		
Category 1	0.464	1783.000
Category 2	0.536	2058.000
PARLAM		
Category 1	0.686	2604.000
Category 2	0.314	1191.000
POLICE		
Category 1	0.427	1644.000
Category 2	0.573	2207.000
GOVERN		
Category 1	0.510	1954.000
Category 2	0.490	1880.000
PPARTY		
Category 1	0.780	2973.000
Category 2	0.220	837.000
CIVIL		
Category 1	0.611	2310.000
Category 2	0.389	1470.000
TRUSTED		
Category 1	0.822	3124.000
Category 2	0.178	675.000
RIGHTS2		

Category 1	0.460	1329.000
Category 2	0.540	1558.000
EQGOV		
Category 1	0.316	1218.000
Category 2	0.684	2635.000
EQUALS		
Category 1	0.667	1272.000
Category 2	0.333	635.000

THE MODEL ESTIMATION TERMINATED NORMALLY

MODEL FIT INFORMATION

Number of Free Parameters 55

Chi-Square Test of Model Fit

Value	880.168*
Degrees of Freedom	177
P-Value	0.0000

\* The chi-square value for MLM, MLMV, MLR, ULSMV, WLSM and WLSMV cannot be used for chi-square difference testing in the regular way. MLM, MLR and WLSM chi-square difference testing is described on the Mplus website. MLMV, WLSMV, and ULSMV difference testing is done using the DIFFTEST option.

RMSEA (Root Mean Square Error Of Approximation)

Estimate	0.032	
90 Percent C.I.	0.030	0.034
Probability RMSEA <= .05	1.000	

CFI/TLI

CFI	0.944
TLI	0.930

Chi-Square Test of Model Fit for the Baseline Model

Value	12675.670
Degrees of Freedom	220
P-Value	0.0000

WRMR (Weighted Root Mean Square Residual)

Value	1.830
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MODEL RESULTS

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
CONFID BY				
ARMY	1.000	0.000	999.000	999.000
POLICE	1.281	0.051	25.274	0.000
PARLAM	1.736	0.063	27.744	0.000
CIVIL	1.473	0.055	26.755	0.000
GOVERN	1.460	0.056	25.910	0.000
PPARTY	1.525	0.058	26.350	0.000
TRUST BY				
TRUSTED	1.000	0.000	999.000	999.000
RIGHTS2	2.594	0.688	3.770	0.000
EQGOV	-1.077	0.339	-3.175	0.002
EQUALS	1.777	0.541	3.284	0.001
TRUST ON				
YOUNGER	-0.004	0.010	-0.452	0.651
OLDER	0.024	0.014	1.740	0.082
PARTNER	0.034	0.012	2.705	0.007
MAN	0.002	0.007	0.209	0.834
HEDUCATION	0.033	0.013	2.501	0.012
RETIRED	-0.016	0.017	-0.956	0.339
UNEMPL	-0.047	0.020	-2.399	0.016
CHILDREN	-0.022	0.012	-1.752	0.080
QUINTIL1	-0.078	0.023	-3.405	0.001
QUINTIL2	-0.039	0.014	-2.754	0.006
QUINTIL4	0.035	0.015	2.352	0.019
QUINTIL5	0.113	0.036	3.157	0.002
YEAR3	-0.026	0.011	-2.371	0.018
YEAR6	-0.013	0.011	-1.260	0.208
YEARS	-0.007	0.010	-0.736	0.462
CONFID ON				
YOUNGER	-0.073	0.028	-2.610	0.009
OLDER	0.114	0.034	3.355	0.001
PARTNER	0.013	0.025	0.517	0.605
MAN	-0.028	0.021	-1.345	0.179
HEDUCATION	0.037	0.028	1.346	0.178
RETIRED	0.058	0.046	1.263	0.207
UNEMPL	-0.047	0.047	-1.000	0.318
CHILDREN	-0.003	0.032	-0.100	0.920
QUINTIL1	-0.059	0.030	-1.976	0.048
QUINTIL2	-0.017	0.028	-0.618	0.537
QUINTIL4	0.039	0.032	1.220	0.222
QUINTIL5	0.093	0.049	1.880	0.060
YEAR3	-0.002	0.027	-0.060	0.952

YEAR6	-0.138	0.031	-4.462	0.000
YEAR5	-0.096	0.029	-3.302	0.001
SATISF ON				
CONFID	0.826	0.206	4.004	0.000
TRUST	5.564	1.618	3.438	0.001
CONFID WITH				
TRUST	0.055	0.014	3.916	0.000
Thresholds				
SATISF3\$1	-1.342	0.079	-17.008	0.000
SATISF3\$2	0.062	0.076	0.822	0.411
ARMY\$1	0.048	0.083	0.583	0.560
PARLAM\$1	0.422	0.087	4.858	0.000
POLICE\$1	-0.227	0.083	-2.742	0.006
GOVERN\$1	-0.163	0.083	-1.959	0.050
PPARTY\$1	0.621	0.094	6.642	0.000
CIVIL\$1	0.155	0.085	1.826	0.068
TRUSTED\$1	0.675	0.095	7.109	0.000
RIGHTS2\$1	-0.159	0.093	-1.710	0.087
EQGOV\$1	-0.508	0.086	-5.911	0.000
EQUALS\$1	0.255	0.115	2.219	0.026
Residual Variances				
CONFID	0.289	0.020	14.333	0.000
TRUST	0.013	0.007	1.976	0.048

#### STANDARDIZED MODEL RESULTS

##### STDY Standardization

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
CONFID BY				
ARMY	0.544	0.019	28.968	0.000
POLICE	0.695	0.016	43.525	0.000
PARLAM	0.936	0.009	101.040	0.000
CIVIL	0.797	0.013	63.333	0.000
GOVERN	0.790	0.013	61.006	0.000
PPARTY	0.825	0.013	61.595	0.000
TRUST BY				
TRUSTED	0.128	0.032	4.008	0.000
RIGHTS2	0.330	0.031	10.795	0.000
EQGOV	-0.138	0.028	-4.985	0.000
EQUALS	0.227	0.037	6.226	0.000
TRUST ON				
YOUNGER	-0.035	0.076	-0.454	0.650
OLDER	0.184	0.095	1.930	0.054
PARTNER	0.262	0.071	3.665	0.000
MAN	0.012	0.057	0.210	0.834
HEDUCATION	0.256	0.081	3.177	0.001
RETIRED	-0.127	0.129	-0.989	0.323
UNEMPL	-0.365	0.123	-2.967	0.003
CHILDREN	-0.168	0.086	-1.955	0.051
QUINTIL1	-0.604	0.097	-6.231	0.000
QUINTIL2	-0.303	0.082	-3.686	0.000
QUINTIL4	0.273	0.093	2.928	0.003
QUINTIL5	0.880	0.178	4.953	0.000
YEAR3	-0.205	0.071	-2.902	0.004
YEAR6	-0.105	0.079	-1.322	0.186
YEAR5	-0.055	0.074	-0.748	0.455
CONFID ON				
YOUNGER	-0.134	0.051	-2.623	0.009
OLDER	0.209	0.062	3.382	0.001
PARTNER	0.024	0.046	0.517	0.605
MAN	-0.051	0.038	-1.346	0.178
HEDUCATION	0.069	0.051	1.349	0.177
RETIRED	0.106	0.084	1.264	0.206
UNEMPL	-0.086	0.086	-1.000	0.317
CHILDREN	-0.006	0.058	-0.100	0.920
QUINTIL1	-0.109	0.055	-1.981	0.048
QUINTIL2	-0.032	0.052	-0.618	0.537
QUINTIL4	0.071	0.058	1.221	0.222
QUINTIL5	0.170	0.090	1.887	0.059
YEAR3	-0.003	0.049	-0.060	0.952
YEAR6	-0.252	0.056	-4.532	0.000
YEAR5	-0.176	0.053	-3.332	0.001
SATISF ON				
CONFID	0.433	0.106	-4.093	0.000
TRUST	0.686	0.101	6.793	0.000
CONFID WITH				
TRUST	0.882	0.054	16.334	0.000
Thresholds				
SATISF3\$1	-1.287	0.075	-17.070	0.000
SATISF3\$2	0.060	0.073	0.821	0.411
ARMY\$1	0.048	0.083	0.583	0.560
PARLAM\$1	0.416	0.086	4.849	0.000
POLICE\$1	-0.225	0.082	-2.743	0.006
GOVERN\$1	-0.161	0.082	-1.960	0.050
PPARTY\$1	0.615	0.093	6.630	0.000
CIVIL\$1	0.154	0.084	1.825	0.068
TRUSTED\$1	0.674	0.095	7.107	0.000

RIGHTS2\$1	-0.157	0.092	-1.711	0.087
EQGOV\$1	-0.507	0.086	-5.909	0.000
EQUALS\$1	0.253	0.114	2.218	0.027

Residual Variances

CONFID	0.969	0.006	150.242	0.000
TRUST	0.794	0.046	17.084	0.000

R-SQUARE

Observed Variable	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value	Residual Variance
SATISF	0.175	0.046	3.812	0.000	0.899
ARMY	0.296	0.020	14.484	0.000	0.711
PARLAM	0.875	0.017	50.520	0.000	0.128
POLICE	0.482	0.022	21.762	0.000	0.525
GOVERN	0.624	0.020	30.503	0.000	0.384
PPARTY	0.680	0.022	30.798	0.000	0.327
CIVIL	0.635	0.020	31.667	0.000	0.373
TRUSTED	0.016	0.008	2.004	0.045	0.987
RIGHTS2	0.109	0.020	5.398	0.000	0.912
EQGOV	0.019	0.008	2.492	0.013	0.985
EQUALS	0.052	0.017	3.113	0.002	0.958

Latent Variable	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
CONFID	0.031	0.006	4.859	0.000
TRUST	0.206	0.046	4.425	0.000

QUALITY OF NUMERICAL RESULTS

Condition Number for the Information Matrix (ratio of smallest to largest eigenvalue) 0.329E-05

CONFIDENCE INTERVALS OF MODEL RESULTS

	Lower .5%	Lower 2.5%	Lower 5%	Estimate	Upper 5%	Upper 2.5%	Upper .5%
CONFID BY							
ARMY	1.000	1.000	1.000	1.000	1.000	1.000	1.000
POLICE	1.150	1.181	1.197	1.281	1.364	1.380	1.411
PARLAM	1.575	1.613	1.633	1.736	1.839	1.859	1.897
CIVIL	1.331	1.365	1.382	1.473	1.563	1.580	1.614
GOVERN	1.315	1.349	1.367	1.460	1.552	1.570	1.605
PPARTY	1.376	1.412	1.430	1.525	1.621	1.639	1.675
TRUST BY							
TRUSTED	1.000	1.000	1.000	1.000	1.000	1.000	1.000
RIGHTS2	0.822	1.245	1.462	2.594	3.725	3.942	4.366
EQGOV	-1.951	-1.742	-1.635	-1.077	-0.519	-0.412	-0.203
EQUALS	0.383	0.717	0.887	1.777	2.668	2.838	3.172
TRUST ON							
YOUNGER	-0.030	-0.024	-0.021	-0.004	0.012	0.015	0.021
OLDER	-0.011	-0.003	0.001	0.024	0.046	0.050	0.059
PARTNER	0.002	0.009	0.013	0.034	0.054	0.058	0.066
MAN	-0.017	-0.013	-0.010	0.002	0.014	0.016	0.020
HEDUCATION	-0.001	0.007	0.011	0.033	0.055	0.059	0.067
RETIRED	-0.060	-0.050	-0.045	-0.016	0.012	0.017	0.028
UNEMPL	-0.097	-0.085	-0.079	-0.047	-0.015	-0.009	0.003
CHILDREN	-0.053	-0.046	-0.042	-0.022	-0.001	0.003	0.010
QUINTIL1	-0.137	-0.122	-0.115	-0.078	-0.040	-0.033	-0.019
QUINTIL2	-0.075	-0.067	-0.062	-0.039	-0.016	-0.011	-0.003
QUINTIL4	-0.003	0.006	0.011	0.035	0.060	0.064	0.073
QUINTIL5	0.021	0.043	0.054	0.113	0.172	0.184	0.206
YEAR3	-0.055	-0.048	-0.045	-0.026	-0.008	-0.005	0.002
YEAR6	-0.041	-0.034	-0.031	-0.013	0.004	0.007	0.014
YEAR5	-0.032	-0.026	-0.023	-0.007	0.009	0.012	0.018
CONFID ON							
YOUNGER	-0.145	-0.128	-0.119	-0.073	-0.027	-0.018	-0.001
OLDER	0.027	0.047	0.058	0.114	0.170	0.181	0.202
PARTNER	-0.052	-0.036	-0.028	0.013	0.054	0.062	0.078
MAN	-0.081	-0.069	-0.062	-0.028	0.006	0.013	0.026
HEDUCATION	-0.034	-0.017	-0.008	0.037	0.083	0.092	0.109
RETIRED	-0.060	-0.032	-0.018	0.058	0.133	0.148	0.176
UNEMPL	-0.168	-0.139	-0.124	-0.047	0.030	0.045	0.074
CHILDREN	-0.085	-0.066	-0.056	-0.003	0.049	0.059	0.079
QUINTIL1	-0.137	-0.118	-0.109	-0.059	-0.010	0.000	0.018
QUINTIL2	-0.090	-0.073	-0.064	-0.017	0.029	0.038	0.055
QUINTIL4	-0.043	-0.024	-0.014	0.039	0.091	0.101	0.121
QUINTIL5	-0.034	-0.004	0.012	0.093	0.174	0.190	0.220
YEAR3	-0.071	-0.054	-0.046	-0.002	0.043	0.051	0.068
YEAR6	-0.217	-0.198	-0.188	-0.138	-0.087	-0.077	-0.058
YEAR5	-0.171	-0.153	-0.144	-0.096	-0.048	-0.039	-0.021
SATISF ON							
CONFID	1.357	1.230	1.165	0.826	0.486	0.422	0.295
TRUST	1.396	2.392	2.902	5.564	8.225	8.735	9.731
CONFID WITH							
TRUST	0.019	0.027	0.032	0.055	0.078	0.082	0.091
Thresholds							
SATISF3\$	-1.546	-1.497	-1.472	-1.342	-1.213	-1.188	-1.139
SATISF3\$	-0.133	-0.087	-0.063	0.062	0.188	0.211	0.258

ARMYS1	-0.166	-0.115	-0.088	0.048	0.185	0.212	0.263
PARLAM\$1	0.198	0.252	0.279	0.422	0.565	0.592	0.646
POLICE\$1	-0.440	-0.389	-0.363	-0.227	-0.091	-0.065	-0.014
GOVERN\$1	-0.377	-0.325	-0.299	-0.163	-0.026	0.000	0.051
PPARTY\$1	0.380	0.438	0.467	0.621	0.775	0.805	0.862
CIVIL\$1	-0.064	-0.011	0.015	0.155	0.295	0.322	0.374
TRUSTED\$	0.430	0.489	0.519	0.675	0.831	0.861	0.919
RIGHTS2\$	-0.398	-0.341	-0.312	-0.159	-0.006	0.023	0.080
EQGOV\$1	-0.729	-0.676	-0.649	-0.508	-0.367	-0.340	-0.287
EQUALS\$1	-0.041	0.030	0.066	0.255	0.444	0.480	0.550
Residual Variances							
CONFID	0.237	0.250	0.256	0.289	0.323	0.329	0.341
TRUST	-0.004	0.000	0.002	0.013	0.024	0.026	0.030

CONFIDENCE INTERVALS OF STANDARDIZED MODEL RESULTS

STDY Standardization

	Lower .5%	Lower 2.5%	Lower 5%	Estimate	Upper 5%	Upper 2.5%	Upper .5%
CONFID BY							
ARMY	0.496	0.507	0.513	0.544	0.575	0.581	0.592
POLICE	0.653	0.663	0.668	0.695	0.721	0.726	0.736
PARLAM	0.912	0.917	0.920	0.936	0.951	0.954	0.959
CIVIL	0.764	0.772	0.776	0.797	0.817	0.821	0.829
GOVERN	0.757	0.765	0.769	0.790	0.811	0.815	0.823
PPARTY	0.790	0.799	0.803	0.825	0.847	0.851	0.859
TRUST BY							
TRUSTED	0.046	0.066	0.076	0.128	0.181	0.191	0.211
RIGHTS2	0.251	0.270	0.280	0.330	0.380	0.390	0.409
EQGOV	-0.210	-0.193	-0.184	-0.138	-0.093	-0.084	-0.067
EQUALS	0.133	0.156	0.167	0.227	0.288	0.299	0.322
TRUST ON							
YOUNGER	-0.232	-0.185	-0.160	-0.035	0.091	0.115	0.162
OLDER	-0.061	-0.003	0.027	0.184	0.340	0.370	0.429
PARTNER	0.078	0.122	0.144	0.262	0.379	0.401	0.445
MAN	-0.134	-0.099	-0.081	0.012	0.105	0.123	0.158
HEDUCATION	0.048	0.098	0.123	0.256	0.388	0.414	0.463
RETIRED	-0.459	-0.379	-0.339	-0.127	0.084	0.125	0.204
UNEMPL	-0.681	-0.606	-0.567	-0.365	-0.163	-0.124	-0.048
CHILDREN	-0.389	-0.336	-0.309	-0.168	-0.027	0.000	0.053
QUINTIL1	-0.854	-0.794	-0.764	-0.604	-0.445	-0.414	-0.354
QUINTIL2	-0.514	-0.464	-0.438	-0.303	-0.168	-0.142	-0.091
QUINTIL4	0.033	0.090	0.119	0.273	0.426	0.455	0.512
QUINTIL5	0.422	0.532	0.588	0.880	1.173	1.229	1.338
YEAR3	-0.386	-0.343	-0.321	-0.205	-0.089	-0.066	-0.023
YEAR6	-0.309	-0.260	-0.235	-0.105	0.026	0.051	0.099
YEAR5	-0.245	-0.200	-0.176	-0.055	0.066	0.089	0.135
CONFID ON							
YOUNGER	-0.265	-0.233	-0.217	-0.134	-0.050	-0.034	-0.002
OLDER	0.050	0.088	0.107	0.209	0.311	0.330	0.368
PARTNER	-0.095	-0.066	-0.052	0.024	0.100	0.114	0.142
MAN	-0.149	-0.125	-0.113	-0.051	0.011	0.023	0.047
HEDUCATION	-0.062	-0.031	-0.015	0.069	0.152	0.168	0.200
RETIRED	-0.110	-0.058	-0.032	0.106	0.244	0.270	0.322
UNEMPL	-0.308	-0.255	-0.228	-0.086	0.056	0.083	0.136
CHILDREN	-0.156	-0.120	-0.102	-0.006	0.090	0.108	0.144
QUINTIL1	-0.250	-0.216	-0.199	-0.109	-0.018	-0.001	0.033
QUINTIL2	-0.165	-0.133	-0.117	-0.032	0.053	0.069	0.101
QUINTIL4	-0.079	-0.043	-0.025	0.071	0.167	0.185	0.221
QUINTIL5	-0.062	-0.007	0.022	0.170	0.318	0.347	0.402
YEAR3	-0.130	-0.100	-0.084	-0.003	0.078	0.094	0.124
YEAR6	-0.395	-0.361	-0.343	-0.252	-0.160	-0.143	-0.109
YEAR5	-0.312	-0.280	-0.263	-0.176	-0.089	-0.073	-0.040
SATISF ON							
CONFID	0.705	0.640	0.606	0.433	0.259	0.225	0.160
TRUST	0.426	0.488	0.520	0.686	0.852	0.884	0.946
CONFID WITH							
TRUST	0.748	0.781	0.798	0.888	0.977	0.994	1.028
Thresholds							
SATISF3\$	-1.481	-1.434	-1.410	-1.287	-1.163	-1.139	-1.092
SATISF3\$	-0.128	-0.083	-0.060	0.060	0.180	0.203	0.248
ARMYS1	-0.165	-0.114	-0.088	0.048	0.184	0.211	0.262
PARLAM\$1	0.195	0.248	0.275	0.416	0.557	0.584	0.637
POLICE\$1	-0.437	-0.386	-0.360	-0.225	-0.090	-0.064	-0.014
GOVERN\$1	-0.373	-0.322	-0.296	-0.161	-0.026	0.000	0.051
PPARTY\$1	0.376	0.433	0.462	0.615	0.767	0.796	0.854
CIVIL\$1	-0.063	-0.011	0.015	0.154	0.292	0.319	0.371
TRUSTED\$	0.429	0.488	0.518	0.674	0.830	0.859	0.918
RIGHTS2\$	-0.394	-0.337	-0.308	-0.157	-0.006	0.023	0.079
EQGOV\$1	-0.728	-0.675	-0.648	-0.507	-0.366	-0.339	-0.286
EQUALS\$1	-0.041	0.029	0.065	0.253	0.441	0.477	0.548
Residual Variances							
CONFID	0.952	0.956	0.958	0.969	0.979	0.981	0.985
TRUST	0.675	0.703	0.718	0.794	0.871	0.885	0.914

## APPENDIX 6.2 Exploring the effect of Trust and Confidence on SWB

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TITLE: Exploring the impact of national context on swb
DATA:
  FILE= nationswb.dat;

VARIABLE:
  NAMES ARE

  WAVE YEAR2 YEAR3 YEAR4 YEAR5 YEAR6 HEDOC EUDA
  FREEDOM2 ESATISF3 SATISF3 FREEDOM3 HAPPY2 PURPOSE2
  SATISF HAPPY ESATISF HEALTH FREEDOM FREEDOM
  PURPOSE PURPOSEP TRUST AGE YOUNGER MIDLIFE OLDER
  PARTNER ALONE WIDOW SINGLE MAN PRIMARY SECONDARY
  HEDUCATION EMPLOYED FTIME PTIME SELF RETIRED
  UNEMPL HSKILLED SKILLED NONSKILL CHILDREN
  QUINTILE QUINTIL1 QUINTIL2 QUINTIL3 QUINTIL4 QUINTIL5
  CAPITAL TRUSTED CHURCHE ARMY PRESS LABOUR POLICE
  PARLAM CIVIL GOVERN PPARTY COMPANY ENVIRON WOMEN
  JUSTICE EQJOB EQPOLIT EQEDUC HOMOSEX PROST
  ABORT DIVORCE EUTHA SUICIDE INCOMEI EGROWTH VOICECH
  SOCHANGE GOVRESP WEALTH RIGHTS EQUALS EQJOB2
  EQPOLIT2 EQEDUC2 RIGHTS2 GENDER ELECTION VOICES
  EQJOBIN EQPOLITIN EQEDUCIN EQINCOME EQGOV EQWEALTH
  ;

MISSING ARE ALL (-9);

USEVARIABLES ARE

SATISF3 HAPPY2 FREEDOM3 PURPOSE2
ARMY POLICE PARLAM
CIVIL GOVERN PPARTY
YOUNGER OLDER PARTNER
MAN HEDUCATION RETIRED UNEMPL CHILDREN
QUINTIL1 QUINTIL2 QUINTIL4
QUINTIL5 YEAR3 YEAR6 YEAR5
TRUSTED RIGHTS2 EQGOV EQUALS
;

CATEGORICAL ARE

SATISF3 HAPPY2 FREEDOM3 PURPOSE2
ARMY POLICE PARLAM
CIVIL GOVERN PPARTY
TRUSTED RIGHTS2 EQGOV EQUALS
;

analysis:
TYPE = GENERAL;
ITERATIONS= 10000;

MODEL:

HEDOC BY SATISF3 HAPPY2;
EUDA BY FREEDOM3 PURPOSE2;

CONFID BY ARMY POLICE PARLAM
CIVIL GOVERN PPARTY;

TRUST BY TRUSTED RIGHTS2 EQGOV EQUALS;

CONFID WITH TRUST;

HEDOC ON CONFID TRUST;
EUDA ON CONFID TRUST;

CONFID ON YOUNGER OLDER PARTNER MAN HEDUCATION RETIRED
UNEMPL CHILDREN QUINTIL1 QUINTIL2 QUINTIL4 QUINTIL5 YEAR3 YEAR6 YEAR5;

TRUST ON YOUNGER OLDER PARTNER MAN HEDUCATION RETIRED
UNEMPL CHILDREN QUINTIL1 QUINTIL2 QUINTIL4 QUINTIL5 YEAR3 YEAR6 YEAR5;

output: standardized(stdy) CINTERVAL;

SUMMARY OF ANALYSIS

Number of groups                                1
Number of observations                          3891

Number of dependent variables                  14
Number of independent variables                15
Number of continuous latent variables          4

Observed dependent variables

Binary and ordered categorical (ordinal)
SATISF3 HAPPY2 FREEDOM3 PURPOSE2 ARMY POLICE
PARLAM CIVIL GOVERN PPARTY TRUSTED RIGHTS2
EQGOV EQUALS

Observed independent variables
YOUNGER OLDER PARTNER MAN HEDUCATI RETIRED
UNEMPL CHILDREN QUINTIL1 QUINTIL2 QUINTIL4 QUINTIL5
YEAR3 YEAR6 YEAR5

Continuous latent variables
HEDOC EUDA CONFID TRUST

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Estimator WLSMV
Maximum number of iterations 10000
Convergence criterion 0.500D-04
Maximum number of steepest descent iterations 20
Maximum number of iterations for H1 2000
Convergence criterion for H1 0.100D-03
Parameterization DELTA

```

```

Input data file(s)
nationswb.dat

```

```

Input data format FREE

```

SUMMARY OF DATA

```

Number of missing data patterns 137

```

COVARIANCE COVERAGE OF DATA

```

Minimum covariance coverage value 0.100

```

PROPORTION OF DATA PRESENT

	Covariance SATISF3	Covariance HAPPY2	Covariance FREEDOM3	Covariance PURPOSE2	Covariance ARMY
SATISF3	0.993				
HAPPY2	0.989	0.996			
FREEDOM3	0.984	0.986	0.989		
PURPOSE2	0.989	0.991	0.984	0.995	
ARMY	0.980	0.984	0.977	0.982	0.987
POLICE	0.983	0.986	0.979	0.985	0.979
PARLAM	0.969	0.972	0.966	0.971	0.966
CIVIL	0.965	0.968	0.963	0.967	0.961
GOVERN	0.978	0.981	0.975	0.981	0.975
PPARTY	0.973	0.975	0.970	0.975	0.969
TRUSTED	0.971	0.973	0.967	0.971	0.964
RIGHTS2	0.736	0.739	0.734	0.739	0.733
EQGOV	0.983	0.987	0.981	0.986	0.977
EQUALS	0.488	0.488	0.487	0.489	0.484

	Covariance POLICE	Covariance PARLAM	Covariance CIVIL	Covariance GOVERN	Covariance PPARTY
POLICE	0.990				
PARLAM	0.969	0.975			
CIVIL	0.965	0.960	0.971		
GOVERN	0.978	0.968	0.963	0.985	
PPARTY	0.972	0.965	0.959	0.972	0.979
TRUSTED	0.967	0.952	0.949	0.962	0.958
RIGHTS2	0.734	0.726	0.725	0.734	0.728
EQGOV	0.980	0.967	0.963	0.976	0.970
EQUALS	0.486	0.479	0.478	0.485	0.479

	Covariance TRUSTED	Covariance RIGHTS2	Covariance EQGOV	Covariance EQUALS
TRUSTED	0.976			
RIGHTS2	0.724	0.742		
EQGOV	0.967	0.736	0.990	
EQUALS	0.479	0.267	0.487	0.490

UNIVARIATE PROPORTIONS AND COUNTS FOR CATEGORICAL VARIABLES

SATISF3		
Category 1	0.101	390.000
Category 2	0.428	1654.000
Category 3	0.471	1820.000
HAPPY2		
Category 1	0.183	711.000
Category 2	0.817	3165.000
FREEDOM3		
Category 1	0.097	374.000
Category 2	0.428	1647.000
Category 3	0.475	1829.000
PURPOSE2		
Category 1	0.208	805.000
Category 2	0.792	3066.000
ARMY		
Category 1	0.464	1783.000
Category 2	0.536	2058.000
POLICE		
Category 1	0.427	1644.000
Category 2	0.573	2207.000
PARLAM		
Category 1	0.686	2604.000
Category 2	0.314	1191.000
CIVIL		
Category 1	0.611	2310.000
Category 2	0.389	1470.000
GOVERN		
Category 1	0.510	1954.000
Category 2	0.490	1880.000

PPARTY			
Category 1	0.780	2973.000	
Category 2	0.220	837.000	
TRUSTED			
Category 1	0.822	3124.000	
Category 2	0.178	675.000	
RIGHTS2			
Category 1	0.460	1329.000	
Category 2	0.540	1558.000	
EQGOV			
Category 1	0.316	1218.000	
Category 2	0.684	2635.000	
EQUALS			
Category 1	0.667	1272.000	
Category 2	0.333	635.000	

THE MODEL ESTIMATION TERMINATED NORMALLY

MODEL FIT INFORMATION

Number of Free Parameters 66

Chi-Square Test of Model Fit

Value	1014.021*
Degrees of Freedom	251
P-Value	0.0000

\* The chi-square value for MLM, MLMV, MLR, ULSMV, WLSM and WLSMV cannot be used for chi-square difference testing in the regular way. MLM, MLR and WLSM chi-square difference testing is described on the Mplus website. MLMV, WLSMV, and ULSMV difference testing is done using the DIFFTEST option.

RMSEA (Root Mean Square Error Of Approximation)

Estimate	0.028	
90 Percent C.I.	0.026	0.030
Probability RMSEA <= .05	1.000	

CFI/TLI

CFI	0.945
TLI	0.934

Chi-Square Test of Model Fit for the Baseline Model

Value	14164.044
Degrees of Freedom	301
P-Value	0.0000

WRMR (Weighted Root Mean Square Residual)

Value	1.706
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MODEL RESULTS

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
HEDOC BY				
SATISF3	1.000	0.000	999.000	999.000
HAPPY2	0.870	0.054	16.154	0.000
EUDA BY				
FREEDOM3	1.000	0.000	999.000	999.000
PURPOSE2	0.308	0.059	5.211	0.000
CONFID BY				
ARMY	1.000	0.000	999.000	999.000
POLICE	1.281	0.051	25.247	0.000
PARLAM	1.736	0.063	27.719	0.000
CIVIL	1.468	0.055	26.692	0.000
GOVERN	1.459	0.056	25.866	0.000
PPARTY	1.521	0.058	26.297	0.000
TRUST BY				
TRUSTED	1.000	0.000	999.000	999.000
RIGHTS2	2.593	0.682	3.802	0.000
EQGOV	-1.137	0.349	-3.256	0.001
EQUALS	1.794	0.543	3.304	0.001
HEDOC CONFID	0.958	0.229	4.182	0.000
TRUST	6.381	1.842	3.465	0.001
EUDA ON				
CONFID	0.507	0.153	3.315	0.001
TRUST	3.893	1.145	3.401	0.001
CONFID ON				
YOUNGER	-0.074	0.028	-2.657	0.008
OLDER	0.115	0.034	3.369	0.001
PARTNER	0.012	0.025	0.484	0.628
MAN	-0.028	0.021	-1.346	0.178
HEDUCATION	0.038	0.028	1.348	0.178
RETIRED	0.059	0.046	1.276	0.202
UNEMPL	-0.045	0.047	-0.951	0.342
CHILDREN	-0.004	0.032	-0.112	0.911

QUINTIL1	-0.060	0.030	-1.981	0.048
QUINTIL2	-0.018	0.028	-0.637	0.524
QUINTIL4	0.039	0.032	1.212	0.226
QUINTIL5	0.095	0.049	1.918	0.055
YEAR3	-0.002	0.027	-0.078	0.937
YEAR6	-0.138	0.031	-4.472	0.000
YEAR5	-0.097	0.029	-3.313	0.001
TRUST ON				
YOUNGER	0.003	0.009	0.325	0.746
OLDER	0.022	0.012	1.859	0.063
PARTNER	0.036	0.012	2.931	0.003
MAN	0.004	0.007	0.639	0.523
HEDUCATION	0.029	0.012	2.511	0.012
RETIRED	-0.022	0.016	-1.410	0.158
UNEMPL	-0.048	0.018	-2.623	0.009
CHILDREN	-0.021	0.011	-1.888	0.059
QUINTIL1	-0.081	0.023	-3.490	0.000
QUINTIL2	-0.043	0.014	-3.010	0.003
QUINTIL4	0.038	0.014	2.641	0.008
QUINTIL5	0.089	0.029	3.105	0.002
YEAR3	-0.018	0.009	-1.908	0.056
YEAR6	-0.012	0.010	-1.198	0.231
YEAR5	-0.005	0.009	-0.592	0.554
CONFID WITH				
TRUST	0.054	0.014	3.941	0.000
EUDA WITH				
HEDOC	0.316	0.035	8.919	0.000
Thresholds				
SATISF3\$1	-1.342	0.079	-17.008	0.000
SATISF3\$2	0.062	0.076	0.822	0.411
HAPPY2\$1	-0.855	0.101	-8.481	0.000
FREEDOM3\$1	-1.400	0.080	-17.419	0.000
FREEDOM3\$2	-0.010	0.077	-0.128	0.898
PURPOSE2\$1	-0.998	0.096	-10.366	0.000
ARMY\$1	0.048	0.083	0.582	0.560
POLICE\$1	-0.227	0.083	-2.742	0.006
PARLAM\$1	0.422	0.087	4.858	0.000
CIVIL\$1	0.155	0.085	1.826	0.068
GOVERN\$1	-0.163	0.083	-1.959	0.050
PPARTY\$1	0.621	0.094	6.642	0.000
TRUSTED\$1	0.675	0.095	7.109	0.000
RIGHTS2\$1	-0.159	0.093	-1.710	0.087
EQGOV\$1	-0.508	0.086	-5.911	0.000
EQUALS\$1	0.255	0.115	2.219	0.026
Residual Variances				
HEDOC	0.433	0.065	6.699	0.000
EUDA	0.208	0.089	2.354	0.019
CONFID	0.290	0.020	14.316	0.000
TRUST	0.013	0.007	2.007	0.045

STANDARDIZED MODEL RESULTS

STDY Standardization

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
HEDOC BY				
SATISF3	0.786	0.024	32.775	0.000
HAPPY2	0.692	0.025	27.201	0.000
EUDA BY				
FREEDOM3	0.547	0.076	7.152	0.000
PURPOSE2	0.172	0.034	5.084	0.000
CONFID BY				
ARMY	0.545	0.019	28.935	0.000
POLICE	0.695	0.016	43.493	0.000
PARLAM	0.937	0.009	101.692	0.000
CIVIL	0.795	0.013	63.090	0.000
GOVERN	0.791	0.013	61.024	0.000
PPARTY	0.823	0.013	61.479	0.000
TRUST BY				
TRUSTED	0.128	0.032	4.051	0.000
RIGHTS2	0.330	0.029	11.228	0.000
EQGOV	-0.146	0.027	-5.308	0.000
EQUALS	0.230	0.036	6.296	0.000
HEDOC ON				
CONFID	0.632	0.148	4.282	0.000
TRUST	0.910	0.139	7.120	0.000
EUDA ON				
CONFID	0.496	0.160	3.106	0.002
TRUST	0.896	0.182	4.919	0.000
CONFID ON				
YOUNGER	-0.136	0.051	-2.671	0.008
OLDER	0.210	0.062	3.396	0.001
PARTNER	0.022	0.046	0.484	0.628
MAN	-0.051	0.038	-1.348	0.178
HEDUCATION	0.069	0.051	1.351	0.177
RETIRED	0.107	0.084	1.278	0.201
UNEMPL	-0.082	0.086	-0.951	0.342

CHILDREN	-0.007	0.058	-0.112	0.911
QUINTIL1	-0.109	0.055	-1.985	0.047
QUINTIL2	-0.033	0.052	-0.637	0.524
QUINTIL4	0.071	0.058	1.213	0.225
QUINTIL5	0.173	0.090	1.925	0.054
YEAR3	-0.004	0.049	-0.079	0.937
YEAR6	-0.252	0.055	-4.543	0.000
YEAR5	-0.177	0.053	-3.344	0.001
TRUST ON				
YOUNGER	0.022	0.068	0.326	0.744
OLDER	0.174	0.083	2.100	0.036
PARTNER	0.282	0.065	4.354	0.000
MAN	0.033	0.050	0.649	0.516
HEDUCATION	0.229	0.071	3.223	0.001
RETIRED	-0.174	0.115	-1.513	0.130
UNEMPL	-0.376	0.110	-3.431	0.001
CHILDREN	-0.163	0.075	-2.156	0.031
QUINTIL1	-0.631	0.091	-6.902	0.000
QUINTIL2	-0.334	0.074	-4.502	0.000
QUINTIL4	0.297	0.084	3.512	0.000
QUINTIL5	0.690	0.144	4.804	0.000
YEAR3	-0.138	0.065	-2.146	0.032
YEAR6	-0.090	0.073	-1.246	0.213
YEAR5	-0.040	0.067	-0.596	0.551
CONFID WITH TRUST				
	0.879	0.046	19.127	0.000
EUDA WITH HEDOC				
	1.050	0.219	4.791	0.000
Thresholds				
SATISF3\$1	-1.271	0.075	-17.031	0.000
SATISF3\$2	0.059	0.072	0.822	0.411
HAPPY2\$1	-0.819	0.096	-8.505	0.000
FREEDOM3\$1	-1.370	0.078	-17.506	0.000
FREEDOM3\$2	-0.010	0.075	-0.128	0.898
PURPOSE2\$1	-0.996	0.096	-10.368	0.000
ARMY\$1	0.048	0.083	0.582	0.560
POLICE\$1	-0.225	0.082	-2.743	0.006
PARLAM\$1	0.416	0.086	4.848	0.000
CIVIL\$1	0.154	0.084	1.825	0.068
GOVERN\$1	-0.161	0.082	-1.960	0.050
PPARTY\$1	0.615	0.093	6.630	0.000
TRUSTED\$1	0.674	0.095	7.107	0.000
RIGHTS2\$1	-0.157	0.092	-1.710	0.087
EQGOV\$1	-0.507	0.086	-5.909	0.000
EQUALS\$1	0.253	0.114	2.219	0.027
Residual Variances				
HEDOC	0.629	0.080	7.843	0.000
EUDA	0.667	0.117	5.725	0.000
CONFID	0.968	0.006	149.751	0.000
TRUST	0.800	0.044	18.008	0.000

#### R-SQUARE

Observed Variable	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value	Residual Variance
SATISF3	0.617	0.038	16.388	0.000	0.427
HAPPY2	0.479	0.035	13.601	0.000	0.567
FREEDOM3	0.299	0.084	3.576	0.000	0.731
PURPOSE2	0.030	0.012	2.542	0.011	0.974
ARMY	0.297	0.021	14.467	0.000	0.710
POLICE	0.484	0.022	21.747	0.000	0.524
PARLAM	0.877	0.017	50.846	0.000	0.126
CIVIL	0.632	0.020	31.545	0.000	0.375
GOVERN	0.625	0.020	30.512	0.000	0.382
PPARTY	0.678	0.022	30.740	0.000	0.329
TRUSTED	0.016	0.008	2.025	0.043	0.987
RIGHTS2	0.109	0.019	5.614	0.000	0.911
EQGOV	0.021	0.008	2.654	0.008	0.983
EQUALS	0.053	0.017	3.148	0.002	0.957
Latent Variable	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value	
HEDOC	0.371	0.080	4.621	0.000	
EUDA	0.333	0.117	2.855	0.004	
CONFID	0.032	0.006	4.876	0.000	
TRUST	0.200	0.044	4.499	0.000	

#### QUALITY OF NUMERICAL RESULTS

Condition Number for the Information Matrix (ratio of smallest to largest eigenvalue) 0.230E-06

#### CONFIDENCE INTERVALS OF MODEL RESULTS

	Lower .5%	Lower 2.5%	Lower 5%	Estimate	Upper 5%	Upper 2.5%	Upper .5%
HEDOC BY							
SATISF3	1.000	1.000	1.000	1.000	1.000	1.000	1.000
HAPPY2	0.731	0.764	0.781	0.870	0.958	0.975	1.008
EUDA BY							
FREEDOM3	1.000	1.000	1.000	1.000	1.000	1.000	1.000

PURPOSE2	0.156	0.192	0.211	0.308	0.406	0.424	0.461
CONFID BY							
ARMY	1.000	1.000	1.000	1.000	1.000	1.000	1.000
POLICE	1.150	1.181	1.197	1.281	1.364	1.380	1.411
PARLAM	1.575	1.613	1.633	1.736	1.839	1.859	1.897
CIVIL	1.326	1.360	1.378	1.468	1.558	1.576	1.610
GOVERN	1.314	1.349	1.367	1.459	1.552	1.570	1.605
PPARTY	1.372	1.408	1.426	1.521	1.616	1.634	1.670
TRUST BY							
TRUSTED	1.000	1.000	1.000	1.000	1.000	1.000	1.000
RIGHTS2	0.836	1.256	1.471	2.593	3.714	3.929	4.349
EQGOV	-2.036	-1.821	-1.711	-1.137	-0.562	-0.453	-0.238
EQUALS	0.395	0.730	0.901	1.794	2.687	2.858	3.192
HEDOC							
CONFID	1.548	1.407	1.335	0.958	0.581	0.509	0.368
TRUST	1.638	2.772	3.352	6.381	9.410	9.990	11.124
EUDA ON							
CONFID	0.900	0.806	0.758	0.507	0.255	0.207	0.113
TRUST	0.944	1.649	2.010	3.893	5.776	6.136	6.841
CONFID ON							
YOUNGER	-0.147	-0.129	-0.120	-0.074	-0.028	-0.020	-0.002
OLDER	0.027	0.048	0.059	0.115	0.171	0.182	0.203
PARTNER	-0.053	-0.037	-0.029	0.012	0.054	0.062	0.077
MAN	-0.081	-0.069	-0.062	-0.028	0.006	0.013	0.026
HEDUCATION	-0.034	-0.017	-0.008	0.038	0.084	0.092	0.110
RETIRED	-0.060	-0.031	-0.017	0.059	0.134	0.149	0.177
UNEMPL	-0.166	-0.137	-0.122	-0.045	0.033	0.048	0.077
CHILDREN	-0.086	-0.066	-0.056	-0.004	0.049	0.059	0.079
QUINTIL1	-0.137	-0.119	-0.109	-0.060	-0.010	-0.001	0.018
QUINTIL2	-0.091	-0.073	-0.064	-0.018	0.028	0.037	0.055
QUINTIL4	-0.043	-0.024	-0.014	0.039	0.091	0.101	0.121
QUINTIL5	-0.033	-0.002	0.013	0.095	0.176	0.192	0.222
YEAR3	-0.071	-0.055	-0.046	-0.002	0.042	0.051	0.067
YEAR6	-0.217	-0.198	-0.189	-0.138	-0.087	-0.077	-0.058
YEARS	-0.172	-0.154	-0.145	-0.097	-0.049	-0.039	-0.022
TRUST ON							
YOUNGER	-0.020	-0.014	-0.012	0.003	0.017	0.020	0.025
OLDER	-0.009	-0.001	0.003	0.022	0.042	0.046	0.053
PARTNER	0.004	0.012	0.016	0.036	0.057	0.060	0.068
MAN	-0.013	-0.009	-0.007	0.004	0.015	0.017	0.021
HEDUCATION	-0.001	0.006	0.010	0.029	0.049	0.052	0.060
RETIRED	-0.063	-0.053	-0.048	-0.022	0.004	0.009	0.018
UNEMPL	-0.096	-0.085	-0.079	-0.048	-0.018	-0.012	-0.001
CHILDREN	-0.049	-0.043	-0.039	-0.021	-0.003	0.001	0.008
QUINTIL1	-0.141	-0.127	-0.119	-0.081	-0.043	-0.036	-0.021
QUINTIL2	-0.080	-0.071	-0.066	-0.043	-0.019	-0.015	-0.006
QUINTIL4	0.001	0.010	0.014	0.038	0.062	0.066	0.075
QUINTIL5	0.015	0.033	0.042	0.089	0.136	0.145	0.162
YEAR3	-0.042	-0.036	-0.033	-0.018	-0.002	0.000	0.006
YEAR6	-0.037	-0.031	-0.028	-0.012	0.004	0.007	0.013
YEARS	-0.028	-0.022	-0.019	-0.005	0.009	0.012	0.017
CONFID WITH							
TRUST	0.019	0.027	0.032	0.054	0.077	0.082	0.090
EUDA WITH							
HEDOC	0.224	0.246	0.257	0.316	0.374	0.385	0.407
Thresholds							
SATISF3\$	-1.546	-1.497	-1.472	-1.342	-1.213	-1.188	-1.139
SATISF3\$	-0.133	-0.087	-0.063	0.062	0.188	0.211	0.258
HAPPY2\$1	-1.114	-1.052	-1.020	-0.855	-0.689	-0.657	-0.595
FREEDOM3	-1.607	-1.557	-1.532	-1.400	-1.267	-1.242	-1.193
FREEDOM3	-0.208	-0.161	-0.137	-0.010	0.117	0.141	0.189
PURPOSE2	-1.246	-1.187	-1.157	-0.998	-0.840	-0.810	-0.750
ARMY\$1	-0.166	-0.115	-0.088	0.048	0.185	0.212	0.263
POLICE\$1	-0.440	-0.389	-0.363	-0.227	-0.091	-0.065	-0.014
PARLAM\$1	0.198	0.252	0.279	0.422	0.565	0.592	0.646
CIVIL\$1	-0.064	-0.011	0.015	0.155	0.295	0.322	0.374
GOVERN\$1	-0.377	-0.325	-0.299	-0.163	-0.026	0.000	0.051
PPARTY\$1	0.380	0.438	0.467	0.621	0.775	0.805	0.862
TRUSTED\$	0.430	0.489	0.519	0.675	0.831	0.861	0.919
RIGHTS2\$	-0.398	-0.341	-0.312	-0.159	-0.006	0.023	0.080
EQGOV\$1	-0.729	-0.676	-0.649	-0.508	-0.367	-0.340	-0.287
EQUALS\$1	-0.041	0.030	0.066	0.255	0.444	0.480	0.551
Residual Variances							
HEDOC	0.267	0.307	0.327	0.433	0.540	0.560	0.600
EUDA	-0.020	0.035	0.063	0.208	0.354	0.382	0.436
CONFID	0.238	0.250	0.257	0.290	0.323	0.330	0.342
TRUST	-0.004	0.000	0.002	0.013	0.024	0.026	0.030

CONFIDENCE INTERVALS OF STANDARDIZED MODEL RESULTS

STDY Standardization

	Lower .5%	Lower 2.5%	Lower 5%	Estimate	Upper 5%	Upper 2.5%	Upper .5%
HEDOC BY							
SATISF3	0.724	0.739	0.746	0.786	0.825	0.833	0.847
HAPPY2	0.626	0.642	0.650	0.692	0.734	0.742	0.757
EUDA BY							
FREEDOM3	0.350	0.397	0.421	0.547	0.673	0.697	0.744

PURPOSE2	0.085	0.106	0.116	0.172	0.228	0.238	0.259
CONFID BY							
ARMY	0.496	0.508	0.514	0.545	0.576	0.582	0.593
POLICE	0.654	0.664	0.669	0.695	0.722	0.727	0.737
PARLAM	0.913	0.919	0.921	0.937	0.952	0.955	0.960
CIVIL	0.763	0.771	0.775	0.795	0.816	0.820	0.828
GOVERN	0.757	0.765	0.769	0.791	0.812	0.816	0.824
PPARTY	0.789	0.797	0.801	0.823	0.845	0.850	0.858
TRUST BY							
TRUSTED	0.047	0.066	0.076	0.128	0.181	0.191	0.210
RIGHTS2	0.254	0.272	0.282	0.330	0.378	0.387	0.406
EQGOV	-0.217	-0.200	-0.191	-0.146	-0.101	-0.092	-0.075
EQUALS	0.136	0.158	0.170	0.230	0.290	0.301	0.323
HEDOC ON							
CONFID	1.012	0.921	0.875	0.632	0.389	0.343	0.252
TRUST	0.631	0.717	0.761	0.989	1.218	1.262	1.347
EUDA ON							
CONFID	0.908	0.809	0.759	0.496	0.233	0.183	0.085
TRUST	0.427	0.539	0.596	0.896	1.196	1.253	1.365
CONFID ON							
YOUNGER	-0.267	-0.236	-0.220	-0.136	-0.052	-0.036	-0.005
OLDER	0.051	0.089	0.108	0.210	0.311	0.331	0.369
PARTNER	-0.096	-0.068	-0.053	0.022	0.098	0.113	0.141
MAN	-0.149	-0.125	-0.113	-0.051	0.011	0.023	0.047
HEDUCATION	-0.062	-0.031	-0.015	0.069	0.152	0.169	0.200
RETIRED	-0.109	-0.057	-0.031	0.107	0.245	0.272	0.323
UNEMPL	-0.304	-0.251	-0.223	-0.082	0.060	0.087	0.140
CHILDREN	-0.157	-0.121	-0.102	-0.007	0.089	0.108	0.144
QUINTIL1	-0.250	-0.217	-0.199	-0.109	-0.019	-0.001	0.032
QUINTIL2	-0.166	-0.134	-0.118	-0.033	0.052	0.068	0.100
QUINTIL4	-0.079	-0.043	-0.025	0.071	0.166	0.185	0.220
QUINTIL5	-0.059	-0.003	0.025	0.173	0.322	0.350	0.405
YEAR3	-0.131	-0.100	-0.085	-0.004	0.077	0.093	0.123
YEAR6	-0.395	-0.361	-0.343	-0.252	-0.161	-0.143	-0.109
YEAR5	-0.313	-0.280	-0.264	-0.177	-0.090	-0.073	-0.041
TRUST ON							
YOUNGER	-0.153	-0.111	-0.090	0.022	0.134	0.155	0.197
OLDER	-0.039	0.012	0.038	0.174	0.311	0.337	0.388
PARTNER	0.115	0.155	0.175	0.282	0.388	0.409	0.448
MAN	-0.097	-0.066	-0.050	0.033	0.115	0.131	0.162
HEDUCATION	0.046	0.090	0.112	0.229	0.346	0.369	0.412
RETIRED	-0.469	-0.399	-0.362	-0.174	0.015	0.051	0.122
UNEMPL	-0.659	-0.591	-0.557	-0.376	-0.196	-0.161	-0.094
CHILDREN	-0.357	-0.311	-0.287	-0.163	-0.039	-0.015	0.032
QUINTIL1	-0.867	-0.810	-0.782	-0.631	-0.481	-0.452	-0.396
QUINTIL2	-0.525	-0.479	-0.456	-0.334	-0.212	-0.188	-0.143
QUINTIL4	0.079	0.131	0.158	0.297	0.435	0.462	0.514
QUINTIL5	0.320	0.409	0.454	0.690	0.926	0.972	1.060
YEAR3	-0.305	-0.265	-0.245	-0.138	-0.032	-0.012	0.028
YEAR6	-0.277	-0.233	-0.210	-0.090	0.029	0.052	0.097
YEAR5	-0.213	-0.172	-0.151	-0.040	0.071	0.092	0.133
CONFID WITH							
TRUST	0.760	0.789	0.803	0.879	0.954	0.969	0.997
EUDA WITH							
HEDOC	0.486	0.621	0.690	1.050	1.411	1.480	1.615
Thresholds							
SATISF3\$	-1.463	-1.417	-1.394	-1.271	-1.148	-1.125	-1.079
SATISF3\$	-0.126	-0.082	-0.059	0.059	0.178	0.200	0.245
HAPPY2\$1	-1.068	-1.008	-0.978	-0.819	-0.661	-0.631	-0.571
FREEDOM3	-1.572	-1.524	-1.499	-1.370	-1.241	-1.217	-1.169
FREEDOM3	-0.204	-0.158	-0.134	-0.010	0.114	0.138	0.185
PURPOSE2	-1.244	-1.185	-1.154	-0.996	-0.838	-0.808	-0.749
ARMY\$1	-0.165	-0.114	-0.088	0.048	0.184	0.211	0.262
POLICE\$1	-0.437	-0.386	-0.360	-0.225	-0.090	-0.064	-0.014
PARLAM\$1	0.195	0.248	0.275	0.416	0.557	0.584	0.637
CIVIL\$1	-0.063	-0.011	0.015	0.154	0.292	0.319	0.371
GOVERN\$1	-0.373	-0.322	-0.296	-0.161	-0.026	0.000	0.051
PPARTY\$1	0.376	0.433	0.462	0.615	0.767	0.796	0.854
TRUSTED\$	0.430	0.488	0.518	0.674	0.830	0.859	0.918
RIGHTS2\$	-0.394	-0.337	-0.308	-0.157	-0.006	0.023	0.080
EQGOV\$1	-0.728	-0.675	-0.648	-0.507	-0.366	-0.339	-0.286
EQUALS\$1	-0.041	0.030	0.066	0.253	0.441	0.477	0.548
Residual Variances							
HEDOC	0.423	0.472	0.497	0.629	0.761	0.787	0.836
EUDA	0.367	0.439	0.476	0.667	0.859	0.896	0.967
CONFID	0.952	0.956	0.958	0.968	0.979	0.981	0.985
TRUST	0.686	0.713	0.727	0.800	0.873	0.887	0.915

## APPENDIX 7.1 Basic capabilities explaining well-being in Chile

```

TITLE: Multilevel CFA model exploring basic capabilities for well-being
DATA:
  FILE= research question 2.dat;

VARIABLE:
  NAMES ARE
    IDPERSON MCONTROL EDUCATED SCHOOL NETWORK YEAR
    HCARE NCONTROL CHRONIC DIS HEALTHS HEALTH3 OCUP
    COCUP FREETIME TENURE CONTRACT TRAINING JOBSTAB
    LITERACY SCHOOLING SUPPLY HOUSE MATERIAL OVERCROW
    OVER3 OVER NFAMILY NOTHERS NEFFORT NUCLEOS PENSION
    OLDFUND OWNFUND HSTATUS SOCIOECS HSTATUS2 SOCIO2
    APPLIANCE CONNECT SAVINGS IAUTOC CRISISH DEBTS
    MALE AGECOD AGE MINORS YOUNGER MIDLIFE OLDERS PARENT
    PARTNER SEPARATED WIDOW SINGLE HHOLDER UNDER18
    UNDER6 BET6AND17 OVER60 HWORKING HWORKER NPEOPLE ETH
    URB CAP REGION NORTH CENTRE SOUTH AUSTRAL
    EDULEVEL PRIMARY SPECIAL SECOND TECHNIC HIGHER POSTG
    OCUPST UNEMPLOYED PROFESS SERVICES SKILLM
    NOSKILL EMPLOYER SEMPLOY EPUBLIC EPRIVATE DECILE QUINTIL
    QUINTIL1 QUINTIL2 QUINTIL3 QUINTIL4 QUINTIL5
    STRESSED NOILL NODEBT NOVER Y2006 Y2007 Y2008 Y2009
  ;

USEVARIABLES ARE

  EDUCATED NFAMILY NOTHERS IAUTOC JOBSTAB SAVINGS
  SOCIO2
  SUPPLY HOUSE MATERIAL
  HEALTH3 NOILL
  MALE YOUNGER OLDERS AGE PARTNER PARENT
  ETH CAP URB
  ;

MISSING ARE ALL (-9);

USEOBSERVATIONS AGECOD GT 1;

CLUSTER= IDPERSON;

WITHIN= EDUCATED NFAMILY NOTHERS IAUTOC JOBSTAB SAVINGS
SOCIO2 SUPPLY HOUSE MATERIAL
HEALTH3 NOILL MALE YOUNGER OLDERS AGE PARTNER PARENT
ETH CAP URB
;

DEFINE:

  IF (HEALTH3<=2)then HEALTH3=1;
  IF (HEALTH3>=3)then HEALTH3=0;

  IF (OVER3 EQ 1)then OVER3=1;
  IF (OVER3>=2)then OVER3=0;

  IF (SOCIOECS EQ 4) then SOCIECS=1;
  IF (SOCIOECS<=3) then SOCIECS=0;

ANALYSIS:
TYPE= TWOLEVEL;

MODEL:

%WITHIN%
HEALTHY BY HEALTH3* NOILL;
MEANS BY EDUCATED* NFAMILY NOTHERS IAUTOC JOBSTAB SAVINGS SOCIO2;
SHELTER BY SUPPLY* HOUSE MATERIAL;

SHELTER ON MEANS;
HEALTHY ON MEANS;
HEALTHY ON SHELTER;

IAUTOC WITH EDUCATED;
JOBSTAB WITH EDUCATED;
JOBSTAB WITH IAUTOC;
SOCIO2 WITH IAUTOC;
SOCIO2 WITH SAVINGS;
MATERIAL WITH SOCIO2;
HEALTH3 WITH SOCIO2;

MEANS ON MALE YOUNGER OLDERS PARTNER PARENT ETH CAP URB;
SHELTER ON MALE YOUNGER OLDERS PARTNER PARENT ETH CAP URB;
HEALTHY ON MALE AGE PARTNER PARENT ETH CAP URB;

output: standardized(STDY) cinterval;

SUMMARY OF ANALYSIS

Number of groups 1
Number of observations 64985

Number of dependent variables 12
Number of independent variables 9
Number of continuous latent variables 3

Observed dependent variables

```

Continuous  
 EDUCATED NFAMILY NOTHERS IAUTOC JOBSTAB SAVINGS  
 SOCIO2 SUPPLY HOUSE MATERIAL HEALTH3 NOILL

Observed independent variables  
 MALE YOUNGER OLDERS AGE PARTNER PARENT  
 ETH CAP URB

Continuous latent variables  
 HEALTHY MEANS SHELTER

Variables with special functions

Cluster variable IDPERSON

Within variables  
 EDUCATED NFAMILY NOTHERS IAUTOC JOBSTAB SAVINGS  
 SOCIO2 SUPPLY HOUSE MATERIAL HEALTH3 NOILL  
 MALE YOUNGER OLDERS AGE PARTNER PARENT  
 ETH CAP URB

Estimator MLR  
 Information matrix OBSERVED  
 Maximum number of iterations 100  
 Convergence criterion 0.100D-05  
 Maximum number of EM iterations 500  
 Convergence criteria for the EM algorithm  
 Loglikelihood change 0.100D-02  
 Relative loglikelihood change 0.100D-05  
 Derivative 0.100D-03  
 Minimum variance 0.100D-03  
 Maximum number of steepest descent iterations 20  
 Maximum number of iterations for H1 2000  
 Convergence criterion for H1 0.100D-03  
 Optimization algorithm EMA

Input data file(s)  
 research question 2.dat  
 Input data format FREE

SUMMARY OF DATA

Number of missing data patterns 190  
 Number of clusters 29497  
 Average cluster size 2.203

Estimated Intraclass Correlations for the Y Variables

Variable	Intraclass Correlation	Variable	Intraclass Correlation	Variable	Intraclass Correlation
EDUCATED	0.000	NFAMILY	0.000	NOTHERS	0.000
IAUTOC	0.000	JOBSTAB	0.000	SAVINGS	0.000
SOCIO2	0.000	SUPPLY	0.000	HOUSE	0.000
MATERIAL	0.000	HEALTH3	0.000	NOILL	0.000

COVARIANCE COVERAGE OF DATA

Minimum covariance coverage value 0.100

PROPORTION OF DATA PRESENT

	Covariance Coverage				
	EDUCATED	NFAMILY	NOTHERS	IAUTOC	JOBSTAB
EDUCATED	0.956				
NFAMILY	0.478	0.492			
NOTHERS	0.478	0.492	0.492		
IAUTOC	0.649	0.438	0.438	0.677	
JOBSTAB	0.527	0.439	0.439	0.520	0.540
SAVINGS	0.949	0.489	0.489	0.673	0.536
SOCIO2	0.619	0.342	0.342	0.435	0.342
SUPPLY	0.944	0.486	0.486	0.670	0.535
HOUSE	0.945	0.486	0.486	0.670	0.534
MATERIAL	0.942	0.485	0.485	0.668	0.533
HEALTH3	0.619	0.342	0.342	0.435	0.342
NOILL	0.330	0.152	0.152	0.231	0.159
MALE	0.956	0.492	0.492	0.677	0.540
YOUNGER	0.956	0.492	0.492	0.677	0.540
OLDERS	0.956	0.492	0.492	0.677	0.540
AGE	0.956	0.492	0.492	0.677	0.540
PARTNER	0.956	0.492	0.492	0.677	0.540
PARENT	0.956	0.492	0.492	0.677	0.540
ETH	0.956	0.492	0.492	0.677	0.540
CAP	0.956	0.492	0.492	0.677	0.540
URB	0.956	0.492	0.492	0.677	0.540

	Covariance Coverage				
	SAVINGS	SOCIO2	SUPPLY	HOUSE	MATERIAL
SAVINGS	0.993				
SOCIO2	0.651	0.651			
SUPPLY	0.981	0.640	0.988		

HOUSE	0.981	0.642	0.982	0.989	
MATERIAL	0.978	0.639	0.985	0.980	0.986
HEALTH3	0.651	0.651	0.640	0.642	0.639
NOILL	0.349	0.239	0.346	0.346	0.345
MALE	0.993	0.651	0.988	0.989	0.986
YOUNGER	0.993	0.651	0.988	0.989	0.986
OLDERS	0.993	0.651	0.988	0.989	0.986
AGE	0.993	0.651	0.988	0.989	0.986
PARTNER	0.993	0.651	0.988	0.989	0.986
PARENT	0.993	0.651	0.988	0.989	0.986
ETH	0.993	0.651	0.988	0.989	0.986
CAP	0.993	0.651	0.988	0.989	0.986
URB	0.993	0.651	0.988	0.989	0.986

	Covariance	Coverage			
	HEALTH3	NOILL	MALE	YOUNGER	OLDERS
HEALTH3	0.651				
NOILL	0.239	0.351			
MALE	0.651	0.351	1.000		
YOUNGER	0.651	0.351	1.000	1.000	
OLDERS	0.651	0.351	1.000	1.000	1.000
AGE	0.651	0.351	1.000	1.000	1.000
PARTNER	0.651	0.351	1.000	1.000	1.000
PARENT	0.651	0.351	1.000	1.000	1.000
ETH	0.651	0.351	1.000	1.000	1.000
CAP	0.651	0.351	1.000	1.000	1.000
URB	0.651	0.351	1.000	1.000	1.000

	Covariance	Coverage			
	AGE	PARTNER	PARENT	ETH	CAP
AGE	1.000				
PARTNER	1.000	1.000			
PARENT	1.000	1.000	1.000		
ETH	1.000	1.000	1.000	1.000	
CAP	1.000	1.000	1.000	1.000	1.000
URB	1.000	1.000	1.000	1.000	1.000

	Covariance	Coverage
	URB	
URB	1.000	

THE MODEL ESTIMATION TERMINATED NORMALLY

MODEL FIT INFORMATION

Number of Free Parameters 72

Loglikelihood

H0 Value -183134.675  
H0 Scaling Correction Factor 2.2794  
for MLR  
H1 Value -178906.187  
H1 Scaling Correction Factor 1.2238  
for MLR

Information Criteria

Akaike (AIC) 366413.350  
Bayesian (BIC) 367067.248  
Sample-Size Adjusted BIC 366838.430  
(n\* = (n + 2) / 24)

Chi-Square Test of Model Fit

Value 13629.168  
Degrees of Freedom 126  
P-Value 0.0000  
Scaling Correction Factor 0.6205  
for MLR

Estimate RMSEA 0.041

Chi-Square Test of Model Fit for the Baseline Model

Value 29182.557  
Degrees of Freedom 174  
P-Value 0.0000

SRMR (Standardized Root Mean Square Residual)

Value for Within 0.037  
Value for Between 0.000

MODEL RESULTS

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
Within Level				
HEALTHY BY				
HEALTH3	0.573	0.015	38.357	0.000
NOILL	0.528	0.018	30.060	0.000
MEANS BY				
EDUCATED	1.107	0.058	18.933	0.000
NFAMILY	-0.361	0.034	-10.662	0.000
NOTHERS	0.148	0.023	6.460	0.000
IAUTO	1.228	0.044	28.002	0.000
JOBSTAB	0.572	0.033	17.215	0.000
SAVINGS	0.314	0.016	19.300	0.000
SOCIO2	0.664	0.029	23.073	0.000
SHELTER BY				
SUPPLY	3.011	4.272	0.705	0.481
HOUSE	0.343	0.485	0.708	0.479
MATERIAL	2.987	4.210	0.710	0.478
SHELTER ON				
MEANS	0.036	0.051	0.709	0.478
HEALTHY ON				
MEANS	0.202	0.018	11.005	0.000
SHELTER	0.007	0.046	0.158	0.874
SHELTER ON				
MALE	-0.003	0.005	-0.689	0.491
YOUNGER	-0.004	0.005	-0.692	0.489
OLDERS	0.003	0.005	0.695	0.487
PARTNER	0.003	0.004	0.662	0.508
PARENT	0.003	0.004	0.676	0.499
ETH	-0.009	0.012	-0.704	0.482
CAP	0.013	0.018	0.702	0.482
URB	0.032	0.046	0.706	0.480
HEALTHY ON				
MALE	0.029	0.004	6.575	0.000
AGE	-0.005	0.000	-24.208	0.000
PARTNER	0.009	0.005	1.654	0.098
PARENT	0.004	0.006	0.664	0.507
ETH	0.006	0.008	0.722	0.470
CAP	0.005	0.005	1.104	0.270
URB	0.004	0.007	0.574	0.566
MEANS ON				
MALE	0.034	0.005	7.291	0.000
YOUNGER	0.058	0.004	15.745	0.000
OLDERS	-0.067	0.004	-17.223	0.000
PARTNER	-0.017	0.003	-5.746	0.000
PARENT	0.004	0.006	0.641	0.522
ETH	-0.034	0.005	-7.634	0.000
CAP	0.038	0.003	10.863	0.000
URB	0.056	0.004	13.030	0.000
IAUTO WITH				
EDUCATED	-0.003	0.004	-0.811	0.418
JOBSTAB WITH				
EDUCATED	-0.014	0.002	-6.438	0.000
IAUTO	0.018	0.003	5.250	0.000
SOCIO2 WITH				
IAUTO	0.016	0.003	6.257	0.000
SAVINGS	0.016	0.001	16.445	0.000
MATERIAL WITH				
SOCIO2	0.015	0.001	13.344	0.000
HEALTH3 WITH				
SOCIO2	0.011	0.001	12.709	0.000
Intercepts				
EDUCATED	0.073	0.005	14.609	0.000
NFAMILY	0.477	0.005	95.123	0.000
NOTHERS	0.092	0.003	33.092	0.000
IAUTO	5.026	0.009	571.913	0.000
JOBSTAB	0.702	0.006	123.247	0.000
SAVINGS	0.103	0.002	44.256	0.000
SOCIO2	0.390	0.005	83.280	0.000
SUPPLY	0.806	0.005	158.837	0.000
HOUSE	0.972	0.001	915.747	0.000
MATERIAL	0.489	0.005	92.688	0.000
HEALTH3	1.033	0.006	177.188	0.000
NOILL	0.860	0.007	121.974	0.000
Residual Variances				
EDUCATED	0.084	0.005	18.300	0.000
NFAMILY	0.241	0.001	236.528	0.000
NOTHERS	0.094	0.002	56.771	0.000
IAUTO	0.213	0.007	29.198	0.000
JOBSTAB	0.167	0.002	73.328	0.000
SAVINGS	0.107	0.001	73.650	0.000
SOCIO2	0.227	0.002	145.088	0.000
SUPPLY	0.051	0.003	15.502	0.000
HOUSE	0.016	0.001	27.623	0.000

MATERIAL	0.210	0.002	136.639	0.000
HEALTH3	0.058	0.001	48.679	0.000
NOILL	0.179	0.002	113.509	0.000
HEALTHY	0.024	0.003	8.929	0.000
MEANS	0.039	0.003	14.881	0.000
SHELTER	0.003	0.009	0.352	0.725

Between Level

STANDARDIZED MODEL RESULTS

STDY Standardization

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
Within Level				
HEALTHY BY				
HEALTH3	0.413	0.018	23.036	0.000
NOILL	0.231	0.012	19.334	0.000
MEANS BY				
EDUCATED	0.619	0.027	22.717	0.000
NFAMILY	-0.151	0.013	-11.368	0.000
NOTHERS	0.099	0.014	6.946	0.000
IAUTO	0.482	0.027	17.626	0.000
JOBSTAB	0.278	0.020	13.617	0.000
SAVINGS	0.195	0.010	20.384	0.000
SOCIO2	0.277	0.011	24.253	0.000
SHELTER BY				
SUPPLY	0.623	0.070	8.945	0.000
HOUSE	0.162	0.032	5.093	0.000
MATERIAL	0.362	0.058	6.272	0.000
SHELTER ON				
MEANS	0.126	0.026	4.774	0.000
HEALTHY ON				
MEANS	0.219	0.021	10.441	0.000
SHELTER	0.002	0.018	0.130	0.897
SHELTER ON				
MALE	-0.055	0.022	-2.443	0.015
YOUNGER	-0.063	0.016	-3.828	0.000
OLDERS	0.056	0.021	2.661	0.008
PARTNER	0.043	0.023	1.874	0.061
PARENT	0.049	0.020	2.461	0.014
ETH	-0.144	0.035	-4.078	0.000
CAP	0.218	0.054	4.051	0.000
URB	0.546	0.116	4.716	0.000
HEALTHY ON				
MALE	0.150	0.023	6.498	0.000
AGE	-0.027	0.001	-19.730	0.000
PARTNER	0.047	0.028	1.648	0.099
PARENT	0.020	0.031	0.663	0.507
ETH	0.030	0.041	0.721	0.471
CAP	0.026	0.024	1.103	0.270
URB	0.020	0.035	0.574	0.566
MEANS ON				
MALE	0.163	0.020	8.041	0.000
YOUNGER	0.279	0.022	12.890	0.000
OLDERS	-0.322	0.017	-18.848	0.000
PARTNER	-0.082	0.014	-5.687	0.000
PARENT	0.018	0.028	0.636	0.525
ETH	-0.167	0.021	-7.839	0.000
CAP	0.182	0.016	11.490	0.000
URB	0.272	0.019	14.353	0.000
IAUTO WITH				
EDUCATED	-0.023	0.028	-0.799	0.424
JOBSTAB WITH				
EDUCATED	-0.115	0.020	-5.814	0.000
IAUTO	0.096	0.017	5.839	0.000
SOCIO2 WITH				
IAUTO	0.072	0.011	6.856	0.000
SAVINGS	0.101	0.006	17.064	0.000
MATERIAL WITH				
SOCIO2	0.070	0.005	13.437	0.000
HEALTH3 WITH				
SOCIO2	0.095	0.008	12.503	0.000
Intercepts				
EDUCATED	0.197	0.013	14.780	0.000
NFAMILY	0.961	0.010	99.121	0.000
NOTHERS	0.299	0.008	35.302	0.000
IAUTO	9.540	0.066	145.648	0.000
JOBSTAB	1.652	0.017	96.044	0.000
SAVINGS	0.309	0.006	48.044	0.000
SOCIO2	0.786	0.009	85.682	0.000
SUPPLY	2.800	0.234	11.990	0.000
HOUSE	7.691	0.110	70.030	0.000
MATERIAL	0.994	0.026	38.746	0.000

HEALTH3	3.903	0.030	128.269	0.000
NOILL	1.976	0.019	104.033	0.000
Residual Variances				
EDUCATED	0.616	0.034	18.239	0.000
NFAMILY	0.977	0.004	245.238	0.000
NOTHERS	0.990	0.003	348.305	0.000
IAUTO	0.767	0.026	29.061	0.000
JOBSTAB	0.922	0.011	80.990	0.000
SAVINGS	0.962	0.004	258.269	0.000
SOCIO2	0.923	0.006	145.981	0.000
SUPPLY	0.612	0.087	7.045	0.000
HOUSE	0.974	0.010	95.038	0.000
MATERIAL	0.869	0.042	20.825	0.000
HEALTH3	0.829	0.015	55.886	0.000
NOILL	0.946	0.006	171.015	0.000
HEALTHY	0.672	0.030	22.316	0.000
MEANS	0.912	0.006	165.246	0.000
SHELTER	0.920	0.034	27.063	0.000

Between Level

R-SQUARE

Within Level

Observed Variable	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
EDUCATED	0.384	0.034	11.359	0.000
NFAMILY	0.023	0.004	5.684	0.000
NOTHERS	0.010	0.003	3.473	0.001
IAUTO	0.233	0.026	8.813	0.000
JOBSTAB	0.078	0.011	6.809	0.000
SAVINGS	0.038	0.004	10.192	0.000
SOCIO2	0.077	0.006	12.126	0.000
SUPPLY	0.388	0.087	4.472	0.000
HOUSE	0.026	0.010	2.546	0.011
MATERIAL	0.131	0.042	3.136	0.002
HEALTH3	0.171	0.015	11.518	0.000
NOILL	0.054	0.006	9.667	0.000

Latent Variable	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
HEALTHY	0.328	0.030	10.902	0.000
MEANS	0.088	0.006	15.856	0.000
SHELTER	0.080	0.034	2.368	0.018

Between Level

QUALITY OF NUMERICAL RESULTS

Condition Number for the Information Matrix (ratio of smallest to largest eigenvalue) -0.751E-09

CONFIDENCE INTERVALS OF MODEL RESULTS

	Lower .5%	Lower 2.5%	Lower 5%	Estimate	Upper 5%	Upper 2.5%	Upper .5%
Within Level							
HEALTHY BY							
HEALTH3	0.535	0.544	0.549	0.573	0.598	0.602	0.612
NOILL	0.483	0.493	0.499	0.528	0.557	0.562	0.573
MEANS BY							
EDUCATED	0.956	0.992	1.010	1.107	1.203	1.221	1.257
NFAMILY	-0.449	-0.428	-0.417	-0.361	-0.306	-0.295	-0.274
NOTHERS	0.089	0.103	0.110	0.148	0.186	0.193	0.207
IAUTO	1.115	1.142	1.156	1.228	1.301	1.314	1.341
JOBSTAB	0.487	0.507	0.518	0.572	0.627	0.637	0.658
SAVINGS	0.272	0.282	0.287	0.314	0.341	0.346	0.356
SOCIO2	0.590	0.608	0.617	0.664	0.711	0.721	0.738
SHELTER BY							
SUPPLY	-7.993	-5.362	-4.016	3.011	10.038	11.384	14.014
HOUSE	-0.905	-0.607	-0.454	0.343	1.140	1.293	1.591
MATERIAL	-7.856	-5.264	-3.938	2.987	9.911	11.237	13.830
SHELTER ON							
MEANS	-0.095	-0.064	-0.048	0.036	0.120	0.136	0.167
HEALTHY ON							
MEANS	0.155	0.166	0.172	0.202	0.232	0.238	0.249
SHELTER	-0.111	-0.083	-0.069	0.007	0.083	0.098	0.126
SHELTER ON							
MALE	-0.015	-0.013	-0.011	-0.003	0.005	0.006	0.009
YOUNGER	-0.018	-0.014	-0.013	-0.004	0.005	0.007	0.010
OLDERS	-0.009	-0.006	-0.005	0.003	0.011	0.013	0.016
PARTNER	-0.007	-0.005	-0.004	0.003	0.009	0.010	0.013
PARENT	-0.008	-0.005	-0.004	0.003	0.010	0.011	0.014
ETH	-0.040	-0.032	-0.029	-0.009	0.011	0.015	0.023
CAP	-0.035	-0.023	-0.017	0.013	0.043	0.049	0.060
URB	-0.086	-0.058	-0.043	0.032	0.108	0.123	0.151
HEALTHY ON							
MALE	0.017	0.020	0.021	0.029	0.036	0.037	0.040

AGE	-0.006	-0.006	-0.005	-0.005	-0.005	-0.005	-0.005
PARTNER	-0.005	-0.002	0.000	0.009	0.018	0.019	0.023
PARENT	-0.011	-0.008	-0.006	0.004	0.014	0.015	0.019
ETH	-0.015	-0.010	-0.007	0.006	0.019	0.021	0.026
CAP	-0.007	-0.004	-0.002	0.005	0.013	0.014	0.017
URB	-0.013	-0.009	-0.007	0.004	0.015	0.017	0.021
MEANS ON							
MALE	0.022	0.025	0.026	0.034	0.041	0.043	0.046
YOUNGER	0.048	0.051	0.052	0.058	0.064	0.065	0.067
OLDERS	-0.077	-0.074	-0.073	-0.067	-0.060	-0.059	-0.057
PARTNER	-0.025	-0.023	-0.022	-0.017	-0.012	-0.011	-0.009
PARENT	-0.011	-0.008	-0.006	0.004	0.013	0.015	0.019
ETH	-0.046	-0.043	-0.042	-0.034	-0.027	-0.026	-0.023
CAP	0.029	0.031	0.032	0.038	0.043	0.045	0.047
URB	0.045	0.048	0.049	0.056	0.063	0.065	0.068
IAUTOC WITH EDUCATED	-0.013	-0.010	-0.009	-0.003	0.003	0.004	0.007
JOBSTAB WITH EDUCATED	-0.019	-0.018	-0.017	-0.014	-0.010	-0.010	-0.008
IAUTOC	0.009	0.011	0.012	0.018	0.024	0.025	0.027
SOCIO2 WITH IAUTOC	0.009	0.011	0.012	0.016	0.020	0.021	0.022
SAVINGS	0.013	0.014	0.014	0.016	0.017	0.018	0.018
MATERIAL WITH SOCIO2	0.012	0.013	0.013	0.015	0.017	0.018	0.018
HEALTH3 WITH SOCIO2	0.009	0.009	0.010	0.011	0.012	0.013	0.013
Intercepts							
EDUCATED	0.060	0.063	0.065	0.073	0.081	0.083	0.086
NFAMILY	0.464	0.468	0.469	0.477	0.486	0.487	0.490
NOTHERS	0.085	0.087	0.087	0.092	0.097	0.097	0.099
IAUTOC	5.003	5.009	5.011	5.026	5.040	5.043	5.048
JOBSTAB	0.688	0.691	0.693	0.702	0.712	0.714	0.717
SAVINGS	0.097	0.098	0.099	0.103	0.107	0.107	0.109
SOCIO2	0.378	0.381	0.382	0.390	0.398	0.399	0.402
SUPPLY	0.792	0.796	0.797	0.806	0.814	0.815	0.819
HOUSE	0.969	0.970	0.970	0.972	0.974	0.974	0.975
MATERIAL	0.475	0.478	0.480	0.489	0.497	0.499	0.502
HEALTH3	1.018	1.021	1.023	1.033	1.042	1.044	1.048
NOILL	0.842	0.847	0.849	0.860	0.872	0.874	0.879
Residual Variances							
EDUCATED	0.072	0.075	0.077	0.084	0.092	0.093	0.096
NFAMILY	0.239	0.239	0.240	0.241	0.243	0.243	0.244
NOTHERS	0.090	0.091	0.091	0.094	0.097	0.097	0.098
IAUTOC	0.194	0.199	0.201	0.213	0.225	0.227	0.232
JOBSTAB	0.161	0.162	0.163	0.167	0.171	0.171	0.173
SAVINGS	0.103	0.104	0.104	0.107	0.109	0.110	0.111
SOCIO2	0.223	0.224	0.225	0.227	0.230	0.230	0.231
SUPPLY	0.042	0.044	0.045	0.051	0.056	0.057	0.059
HOUSE	0.014	0.014	0.015	0.016	0.016	0.017	0.017
MATERIAL	0.206	0.207	0.207	0.210	0.213	0.213	0.214
HEALTH3	0.055	0.056	0.056	0.058	0.060	0.060	0.061
NOILL	0.175	0.176	0.177	0.179	0.182	0.183	0.184
HEALTHY	0.017	0.019	0.020	0.024	0.029	0.030	0.032
MEANS	0.032	0.034	0.035	0.039	0.043	0.044	0.046
SHELTER	-0.021	-0.015	-0.012	0.003	0.018	0.021	0.027

Between Level

CONFIDENCE INTERVALS OF STANDARDIZED MODEL RESULTS

STDY Standardization

	Lower .5%	Lower 2.5%	Lower 5%	Estimate	Upper 5%	Upper 2.5%	Upper .5%
Within Level							
HEALTHY BY HEALTH3	0.367	0.378	0.384	0.413	0.443	0.449	0.460
NOILL	0.200	0.208	0.212	0.231	0.251	0.255	0.262
MEANS BY EDUCATED	0.549	0.566	0.575	0.619	0.664	0.673	0.690
NFAMILY	-0.185	-0.176	-0.172	-0.151	-0.129	-0.125	-0.116
NOTHERS	0.063	0.071	0.076	0.099	0.123	0.127	0.136
IAUTOC	0.412	0.429	0.437	0.482	0.527	0.536	0.553
JOBSTAB	0.226	0.238	0.245	0.278	0.312	0.319	0.331
SAVINGS	0.170	0.176	0.179	0.195	0.211	0.214	0.219
SOCIO2	0.248	0.255	0.258	0.277	0.296	0.299	0.306
SHELTER BY SUPPLY	0.444	0.487	0.509	0.623	0.738	0.760	0.803
HOUSE	0.080	0.099	0.109	0.162	0.214	0.224	0.243
MATERIAL	0.213	0.249	0.267	0.362	0.457	0.475	0.510
SHELTER ON MEANS	0.058	0.074	0.082	0.126	0.169	0.177	0.193
HEALTHY ON MEANS	0.165	0.178	0.185	0.219	0.254	0.260	0.273
SHELTER	-0.043	-0.032	-0.027	0.002	0.031	0.037	0.048

SHELTER ON							
MALE	-0.112	-0.099	-0.092	-0.055	-0.018	-0.011	0.003
YOUNGER	-0.105	-0.095	-0.090	-0.063	-0.036	-0.031	-0.021
OLDERS	0.002	0.015	0.022	0.056	0.091	0.098	0.111
PARTNER	-0.016	-0.002	0.005	0.043	0.081	0.089	0.103
PARENT	-0.002	0.010	0.016	0.049	0.081	0.087	0.099
ETH	-0.235	-0.213	-0.202	-0.144	-0.086	-0.075	-0.053
CAP	0.079	0.112	0.129	0.218	0.306	0.323	0.356
URB	0.248	0.319	0.355	0.546	0.736	0.772	0.844
HEALTHY ON							
MALE	0.091	0.105	0.112	0.150	0.188	0.195	0.210
AGE	-0.030	-0.030	-0.029	-0.027	-0.025	-0.024	-0.023
PARTNER	-0.026	-0.009	0.000	0.047	0.093	0.102	0.119
PARENT	-0.059	-0.040	-0.030	0.020	0.071	0.081	0.100
ETH	-0.077	-0.051	-0.038	0.030	0.098	0.111	0.137
CAP	-0.035	-0.021	-0.013	0.026	0.066	0.073	0.088
URB	-0.069	-0.048	-0.037	0.020	0.077	0.088	0.109
MEANS ON							
MALE	0.111	0.123	0.130	0.163	0.197	0.203	0.215
YOUNGER	0.223	0.237	0.243	0.279	0.315	0.321	0.335
OLDERS	-0.366	-0.356	-0.350	-0.322	-0.294	-0.289	-0.278
PARTNER	-0.119	-0.110	-0.106	-0.082	-0.058	-0.054	-0.045
PARENT	-0.055	-0.037	-0.029	0.018	0.065	0.073	0.091
ETH	-0.221	-0.208	-0.201	-0.167	-0.132	-0.125	-0.112
CAP	0.141	0.151	0.156	0.182	0.208	0.213	0.223
URB	0.224	0.235	0.241	0.272	0.304	0.310	0.321
IAUTOC WITH EDUCATED							
EDUCATED	-0.096	-0.078	-0.069	-0.023	0.024	0.033	0.050
JOBSTAB WITH EDUCATED							
EDUCATED	-0.167	-0.154	-0.148	-0.115	-0.083	-0.077	-0.064
IAUTOC	0.054	0.064	0.069	0.096	0.124	0.129	0.139
SOCIO2 WITH IAUTOC SAVINGS							
IAUTOC	0.045	0.052	0.055	0.072	0.089	0.093	0.099
SAVINGS	0.086	0.089	0.091	0.101	0.111	0.112	0.116
MATERIAL WITH SOCIO2							
SOCIO2	0.057	0.060	0.062	0.070	0.079	0.081	0.084
HEALTH3 WITH SOCIO2							
SOCIO2	0.075	0.080	0.083	0.095	0.108	0.110	0.115
Intercepts							
EDUCATED	0.163	0.171	0.175	0.197	0.219	0.224	0.232
NFAMILY	0.936	0.942	0.945	0.961	0.977	0.980	0.986
NOTHERS	0.277	0.282	0.285	0.299	0.313	0.315	0.321
IAUTOC	9.371	9.412	9.432	9.540	9.648	9.668	9.709
JOBSTAB	1.608	1.618	1.624	1.652	1.680	1.686	1.696
SAVINGS	0.292	0.296	0.298	0.309	0.319	0.321	0.325
SOCIO2	0.762	0.768	0.771	0.786	0.801	0.804	0.810
SUPPLY	2.198	2.342	2.416	2.800	3.184	3.258	3.401
HOUSE	7.408	7.476	7.511	7.691	7.872	7.907	7.974
MATERIAL	0.928	0.944	0.952	0.994	1.036	1.044	1.060
HEALTH3	3.824	3.843	3.853	3.903	3.953	3.962	3.981
NOILL	1.927	1.939	1.945	1.976	2.007	2.013	2.025
Residual Variances							
EDUCATED	0.529	0.550	0.561	0.616	0.672	0.682	0.703
NFAMILY	0.967	0.970	0.971	0.977	0.984	0.985	0.988
NOTHERS	0.983	0.985	0.985	0.990	0.995	0.996	0.997
IAUTOC	0.699	0.716	0.724	0.767	0.811	0.819	0.835
JOBSTAB	0.893	0.900	0.904	0.922	0.941	0.945	0.952
SAVINGS	0.952	0.955	0.956	0.962	0.968	0.969	0.972
SOCIO2	0.907	0.911	0.913	0.923	0.934	0.936	0.940
SUPPLY	0.388	0.442	0.469	0.612	0.755	0.782	0.835
HOUSE	0.948	0.954	0.957	0.974	0.991	0.994	1.000
MATERIAL	0.762	0.787	0.800	0.869	0.938	0.951	0.977
HEALTH3	0.791	0.800	0.805	0.829	0.854	0.858	0.867
NOILL	0.932	0.936	0.937	0.946	0.956	0.957	0.961
HEALTHY	0.594	0.613	0.622	0.672	0.721	0.731	0.749
MEANS	0.898	0.902	0.903	0.912	0.922	0.923	0.927
SHELTER	0.832	0.853	0.864	0.920	0.975	0.986	1.007

## APPENDIX 7.2 Examining data fit CFA for basic capabilities explaining well-being in Chile

```

TITLE: CFA testing data fit
DATA:
  FILE= research question 2.dat;

VARIABLE:
  NAMES ARE
    IDPERSON MCONTROL EDUCATED SCHOOL NETWORK YEAR
    HCARE NCONTROL CHRONIC DIS HEALTHS HEALTH3 OCUP
    COCUP FREETIME TENURE CONTRACT TRAINING JOBSTAB
    LITERACY SCHOOLING SUPPLY HOUSE MATERIAL OVERCROW
    OVER3 OVER NFAMILY NOTHERS NEFFORT NUCLEOS PENSION
    OLDFUND OWNFUND HSTATUS SOCIOECS HSTATUS2 SOCIO2
    APPLIANCE CONNECT SAVINGS IAUTOC CRISISH DEBTS
    MALE AGECOD AGE MINORS YOUNGER MIDLIFE OLDERS PARENT
    PARTNER SEPARATED WIDOW SINGLE HHOLDER UNDER18
    UNDER6 BET6AND17 OVER60 HWORKING HWORKER NPEOPLE ETH
    URB CAP REGION NORTH CENTRE SOUTH AUSTRAL
    EDULEVEL PRIMARY SPECIAL SECOND TECHNIC HIGHER POSTG
    OCUPST UNEMPLOYED PROFESS SERVICES SKILLM
    NOSKILL EMPLOYER SEMPLOY EPUBLIC EPRIVATE DECILE QUINTIL
    QUINTIL1 QUINTIL2 QUINTIL3 QUINTIL4 QUINTIL5
    STRESSED NOILL NODEBT NOVER Y2006 Y2007 Y2008 Y2009
  ;

  USEVARIABLES ARE

    EDUCATED NFAMILY NOTHERS IAUTOC JOBSTAB SAVINGS
    SOCIO2
    SUPPLY HOUSE MATERIAL
    HEALTH3 NOILL
    MALE YOUNGER OLDERS AGE PARTNER PARENT
    ETH CAP URB Y2006 Y2007 Y2008
  ;

  CATEGORICAL ARE

    EDUCATED NFAMILY NOTHERS JOBSTAB SAVINGS
    SUPPLY HOUSE MATERIAL
    SOCIO2 HEALTH3 NOILL
  ;
  MISSING ARE ALL (-9);
  USEOBSERVATIONS AGECOD GT 1;

  DEFINE:

    IF (HEALTH3<=2)then HEALTH3=1;
    IF (HEALTH3>=3)then HEALTH3=0;

    IF (OVER3 EQ 1)then OVER3=1;
    IF (OVER3>=2)then OVER3=0;

    IF (SOCIOECS EQ 4) then SOCIECS=1;
    IF (SOCIOECS<=3) then SOCIECS=0;
  ANALYSIS:
    TYPE= GENERAL;
    ITERATIONS=10000;

  MODEL:
    HEALTHY BY HEALTH3* NOILL;
    MEANS BY EDUCATED* NFAMILY NOTHERS IAUTOC JOBSTAB SAVINGS SOCIO2;
    SHELTER BY SUPPLY* HOUSE MATERIAL;

    SHELTER ON MEANS;
    HEALTHY ON MEANS;
    HEALTHY ON SHELTER;

    MEANS@1;
    SHELTER@1;
    HEALTHY@1;

    IAUTOC WITH EDUCATED;
    JOBSTAB WITH EDUCATED;
    JOBSTAB WITH IAUTOC;
    SOCIO2 WITH IAUTOC;
    SOCIO2 WITH SAVINGS;
    MATERIAL WITH SOCIO2;
    HEALTH3 WITH SOCIO2;

  MEANS ON MALE YOUNGER OLDERS PARTNER PARENT ETH CAP URB Y2006 Y2007 Y2008;
  SHELTER ON MALE YOUNGER OLDERS PARTNER PARENT ETH CAP URB Y2006 Y2007 Y2008;
  HEALTHY ON MALE AGE PARTNER PARENT ETH CAP URB Y2006 Y2007 Y2008;

  output: standardized(STDY)cinterval;

SUMMARY OF ANALYSIS

Number of groups                                1
Number of observations                          64985

Number of dependent variables                   12
Number of independent variables                 12
Number of continuous latent variables           3

Observed dependent variables

```

Continuous  
IAUTO

Binary and ordered categorical (ordinal)  
EDUCATED NFAMILY NOTHERS JOBSTAB SAVINGS SOCIO2  
SUPPLY HOUSE MATERIAL HEALTH3 NOILL

Observed independent variables  
MALE YOUNGER OLDERS AGE PARTNER PARENT  
ETH CAP URB Y2006 Y2007 Y2008

Continuous latent variables  
HEALTHY MEANS SHELTER

Estimator WLSMV  
Maximum number of iterations 10000  
Convergence criterion 0.500D-04  
Maximum number of steepest descent iterations 20  
Maximum number of iterations for H1 2000  
Convergence criterion for H1 0.100D-03  
Parameterization DELTA

SUMMARY OF DATA

Number of missing data patterns 190

COVARIANCE COVERAGE OF DATA

Minimum covariance coverage value 0.100

PROPORTION OF DATA PRESENT

	Covariance Coverage				
	EDUCATED	NFAMILY	NOTHERS	IAUTO	JOBSTAB
EDUCATED	0.956				
NFAMILY	0.478	0.492			
NOTHERS	0.478	0.492	0.492		
IAUTO	0.649	0.438	0.438	0.677	
JOBSTAB	0.527	0.439	0.439	0.520	0.540
SAVINGS	0.949	0.489	0.489	0.673	0.536
SOCIO2	0.619	0.342	0.342	0.435	0.342
SUPPLY	0.944	0.486	0.486	0.670	0.535
HOUSE	0.945	0.486	0.486	0.670	0.534
MATERIAL	0.942	0.485	0.485	0.668	0.533
HEALTH3	0.619	0.342	0.342	0.435	0.342
NOILL	0.330	0.152	0.152	0.231	0.159

	Covariance Coverage				
	SAVINGS	SOCIO2	SUPPLY	HOUSE	MATERIAL
SAVINGS	0.993				
SOCIO2	0.651	0.651			
SUPPLY	0.981	0.640	0.988		
HOUSE	0.981	0.642	0.982	0.989	
MATERIAL	0.978	0.639	0.985	0.980	0.986
HEALTH3	0.651	0.651	0.640	0.642	0.639
NOILL	0.349	0.239	0.346	0.346	0.345

	Covariance Coverage	
	HEALTH3	NOILL
HEALTH3	0.651	
NOILL	0.239	0.351

UNIVARIATE PROPORTIONS AND COUNTS FOR CATEGORICAL VARIABLES

EDUCATED		
Category 1	0.837	51989.000
Category 2	0.163	10120.000
NFAMILY		
Category 1	0.557	17813.000
Category 2	0.443	14162.000
NOTHERS		
Category 1	0.894	28582.000
Category 2	0.106	3393.000
JOBSTAB		
Category 1	0.235	8244.000
Category 2	0.765	26873.000
SAVINGS		
Category 1	0.873	56308.000
Category 2	0.127	8209.000
SOCIO2		
Category 1	0.566	23911.000
Category 2	0.434	18370.000
SUPPLY		
Category 1	0.091	5845.000
Category 2	0.909	58349.000
HOUSE		
Category 1	0.016	1043.000
Category 2	0.984	63205.000
MATERIAL		
Category 1	0.409	26171.000
Category 2	0.591	37872.000
HEALTH3		

Category 1	0.076	3205.000
Category 2	0.924	39076.000
NOILL		
Category 1	0.255	5820.000
Category 2	0.745	16973.000

THE MODEL ESTIMATION TERMINATED NORMALLY

MODEL FIT INFORMATION

Number of Free Parameters 67

Chi-Square Test of Model Fit

Value	2676.763
Degrees of Freedom	156
P-Value	0.0000

Estimate	0.016	
90 Percent C.I.	0.015	0.016
Probability RMSEA <= .05	1.000	

CFI/TLI

CFI	0.912
TLI	0.908

Chi-Square Test of Model Fit for the Baseline Model

Value	24878.815
Degrees of Freedom	210
P-Value	0.0000

WRMR (Weighted Root Mean Square Residual)

Value	3.576
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MODEL RESULTS

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
HEALTHY BY				
HEALTH3	0.855	0.089	9.615	0.000
NOILL	0.200	0.021	9.768	0.000
MEANS BY				
EDUCATED	0.711	0.024	29.421	0.000
NFAMILY	-0.165	0.009	-17.574	0.000
NOTHERS	0.081	0.012	6.909	0.000
IAUTOC	0.394	0.013	30.954	0.000
JOBSTAB	0.574	0.024	24.142	0.000
SAVINGS	0.284	0.010	27.874	0.000
SOCIO2	0.386	0.014	28.165	0.000
SHELTER BY				
SUPPLY	0.888	0.017	53.634	0.000
HOUSE	0.397	0.017	23.592	0.000
MATERIAL	0.519	0.010	53.821	0.000
SHELTER ON				
MEANS	0.146	0.010	14.547	0.000
HEALTHY ON				
MEANS	0.228	0.028	8.055	0.000
SHELTER	0.030	0.019	1.595	0.111
SHELTER ON				
MALE	-0.078	0.014	-5.667	0.000
YOUNGER	-0.041	0.026	-1.592	0.111
OLDERS	0.065	0.030	2.162	0.031
PARTNER	0.070	0.017	4.221	0.000
PARENT	0.096	0.021	4.628	0.000
ETH	-0.139	0.025	-5.547	0.000
CAP	0.300	0.016	19.216	0.000
URB	0.460	0.019	24.336	0.000
Y2006	-0.025	0.019	-1.295	0.195
Y2007	-0.007	0.020	-0.340	0.734
Y2008	0.024	0.020	1.214	0.225
HEALTHY ON				
MALE	0.148	0.027	5.417	0.000
AGE	-0.023	0.003	-8.316	0.000
PARTNER	-0.011	0.026	-0.441	0.660
PARENT	0.107	0.038	2.782	0.005
ETH	0.025	0.042	0.602	0.547
CAP	0.004	0.025	0.140	0.889
URB	-0.005	0.032	-0.165	0.869
Y2006	-0.192	0.021	-9.302	0.000
Y2007	-0.106	0.030	-3.583	0.000
Y2008	-0.073	0.029	-2.494	0.013
MEANS ON				
MALE	0.193	0.012	15.963	0.000
YOUNGER	0.125	0.022	5.791	0.000

OLDERS	-0.314	0.025	-12.346	0.000
PARTNER	-0.027	0.014	-1.977	0.048
PARENT	-0.134	0.017	-7.951	0.000
ETH	-0.153	0.021	-7.258	0.000
CAP	0.179	0.013	14.128	0.000
URB	0.274	0.017	15.798	0.000
Y2006	0.137	0.014	9.515	0.000
Y2007	0.072	0.016	4.371	0.000
Y2008	-0.057	0.016	-3.658	0.000
IAUTOC WITH EDUCATED	-0.062	0.017	-3.677	0.000
JOBSTAB WITH EDUCATED	-0.200	0.028	-7.189	0.000
IAUTOC	-0.074	0.015	-5.044	0.000
SOCIO2 WITH IAUTOC	-0.019	0.006	-3.295	0.001
SAVINGS	0.188	0.011	17.324	0.000
MATERIAL WITH SOCIO2	0.121	0.008	15.675	0.000
HEALTH3 WITH SOCIO2	0.227	0.013	17.680	0.000
Intercepts IAUTOC	4.869	0.022	217.964	0.000
Thresholds EDUCATED\$1	0.688	0.059	11.614	0.000
NFAMILY\$1	-0.237	0.066	-3.617	0.000
NOTHERS\$1	1.302	0.088	14.798	0.000
JOBSTAB\$1	0.039	0.070	0.551	0.582
SAVINGS\$1	1.278	0.058	22.088	0.000
SOCIO2\$1	0.109	0.053	2.052	0.040
SUPPLY\$1	-0.843	0.061	-13.835	0.000
HOUSE\$1	-1.806	0.109	-16.607	0.000
MATERIAL\$1	-0.023	0.044	-0.519	0.604
HEALTH3\$1	-2.345	0.081	-28.836	0.000
NOILL\$1	-0.506	0.078	-6.453	0.000
Residual Variances IAUTOC	0.111	0.010	10.991	0.000
HEALTHY	1.000	0.000	999.000	999.000
MEANS	1.000	0.000	999.000	999.000
SHELTER	1.000	0.000	999.000	999.000

STANDARDIZED MODEL RESULTS

STDY Standardization

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
HEALTHY BY HEALTH3	0.896	0.074	12.151	0.000
NOILL	0.225	0.026	8.788	0.000
MEANS BY EDUCATED	0.721	0.023	30.838	0.000
NFAMILY	-0.169	0.010	-17.413	0.000
NOTHERS	0.083	0.012	6.898	0.000
IAUTOC	0.773	0.024	32.617	0.000
JOBSTAB	0.585	0.023	24.977	0.000
SAVINGS	0.292	0.011	27.213	0.000
SOCIO2	0.396	0.014	27.901	0.000
SHELTER BY SUPPLY	0.903	0.016	57.404	0.000
HOUSE	0.412	0.017	23.815	0.000
MATERIAL	0.537	0.010	54.618	0.000
SHELTER ON MEANS	0.144	0.010	14.730	0.000
HEALTHY ON MEANS	0.208	0.022	9.271	0.000
SHELTER	0.028	0.018	1.604	0.109
SHELTER ON MALE	-0.075	0.013	-5.680	0.000
YOUNGER	-0.040	0.025	-1.592	0.111
OLDERS	0.062	0.029	2.163	0.031
PARTNER	0.067	0.016	4.224	0.000
PARENT	0.092	0.020	4.634	0.000
ETH	-0.133	0.024	-5.553	0.000
CAP	0.287	0.015	19.564	0.000
URB	0.441	0.018	24.839	0.000
Y2006	-0.024	0.018	-1.295	0.195
Y2007	-0.007	0.019	-0.340	0.734
Y2008	0.023	0.019	1.214	0.225
HEALTHY ON MALE	0.131	0.023	5.742	0.000
AGE	-0.020	0.002	-10.168	0.000
PARTNER	-0.010	0.023	-0.441	0.659
PARENT	0.094	0.033	2.828	0.005
ETH	0.023	0.037	0.603	0.547
CAP	0.003	0.023	0.140	0.889

URB	-0.005	0.029	-0.165	0.869
Y2006	-0.170	0.015	-11.379	0.000
Y2007	-0.094	0.026	-3.680	0.000
Y2008	-0.064	0.026	-2.526	0.012
MEANS ON				
MALE	0.187	0.012	16.218	0.000
YOUNGER	0.121	0.021	5.851	0.000
OLDERS	-0.305	0.024	-12.678	0.000
PARTNER	-0.026	0.013	-1.978	0.048
PARENT	-0.130	0.016	-7.962	0.000
ETH	-0.148	0.020	-7.280	0.000
CAP	0.174	0.012	14.308	0.000
URB	0.266	0.017	16.049	0.000
Y2006	0.133	0.014	9.563	0.000
Y2007	0.070	0.016	4.375	0.000
Y2008	-0.055	0.015	-3.661	0.000
IAUTOC WITH EDUCATED				
	-0.264	0.091	-2.909	0.004
JOBSTAB WITH EDUCATED				
	-0.348	0.064	-5.467	0.000
IAUTOC				
	-0.270	0.068	-3.949	0.000
SOCIO2 WITH IAUTOC				
	-0.062	0.020	-3.058	0.002
SAVINGS				
	0.212	0.011	18.513	0.000
MATERIAL WITH SOCIO2				
	0.154	0.010	15.721	0.000
HEALTH3 WITH SOCIO2				
	0.514	0.173	2.976	0.003
Intercepts IAUTOC				
	9.285	0.054	171.283	0.000
Thresholds				
EDUCATED\$1	0.678	0.058	11.704	0.000
NFAMILY\$1	-0.237	0.066	-3.617	0.000
NOTHERS\$1	1.302	0.088	14.799	0.000
JOBSTAB\$1	0.038	0.070	0.551	0.582
SAVINGS\$1	1.275	0.058	22.140	0.000
SOCIO2\$1	0.109	0.053	2.053	0.040
SUPPLY\$1	-0.821	0.060	-13.789	0.000
HOUSE\$1	-1.796	0.108	-16.594	0.000
MATERIAL\$1	-0.022	0.043	-0.519	0.604
HEALTH3\$1	-2.177	0.062	-35.082	0.000
NOILL\$1	-0.504	0.078	-6.483	0.000
Residual Variances				
IAUTOC	0.402	0.037	10.974	0.000
HEALTHY	0.785	0.037	21.498	0.000
MEANS	0.942	0.005	187.840	0.000
SHELTER	0.917	0.004	220.744	0.000

#### R-SQUARE

Observed Variable	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value	Residual Variance
EDUCATED	0.520	0.034	15.419	0.000	0.495
NFAMILY	0.029	0.003	8.707	0.000	0.973
NOTHERS	0.007	0.002	3.449	0.001	0.993
IAUTOC	0.598	0.037	16.308	0.000	
JOBSTAB	0.343	0.027	12.488	0.000	0.671
SAVINGS	0.085	0.006	13.607	0.000	0.919
SOCIO2	0.157	0.011	13.950	0.000	0.851
SUPPLY	0.815	0.028	28.702	0.000	0.195
HOUSE	0.170	0.014	11.908	0.000	0.839
MATERIAL	0.288	0.011	27.309	0.000	0.725
HEALTH3	0.803	0.132	6.075	0.000	0.229
NOILL	0.051	0.012	4.394	0.000	0.958
Latent Variable	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value	
HEALTHY	0.215	0.037	5.890	0.000	
MEANS	0.058	0.005	11.602	0.000	
SHELTER	0.083	0.004	19.872	0.000	

#### QUALITY OF NUMERICAL RESULTS

Condition Number for the Information Matrix (ratio of smallest to largest eigenvalue) 0.717E-04

#### CONFIDENCE INTERVALS OF MODEL RESULTS

	Lower .5%	Lower 2.5%	Lower 5%	Estimate	Upper 5%	Upper 2.5%	Upper .5%
HEALTHY BY							
HEALTH3	0.626	0.681	0.709	0.855	1.001	1.029	1.084
NOILL	0.147	0.160	0.167	0.200	0.234	0.241	0.253
MEANS BY							
EDUCATED	0.649	0.664	0.671	0.711	0.751	0.758	0.773
NFAMILY	-0.189	-0.183	-0.180	-0.165	-0.149	-0.146	-0.141
NOTHERS	0.051	0.058	0.062	0.081	0.100	0.104	0.111
IAUTOC	0.361	0.369	0.373	0.394	0.414	0.418	0.426
JOBSTAB	0.513	0.527	0.535	0.574	0.613	0.621	0.635

SAVINGS	0.258	0.264	0.267	0.284	0.301	0.304	0.310
SOCIO2	0.350	0.359	0.363	0.386	0.408	0.413	0.421
SHELTER BY							
SUPPLY	0.845	0.855	0.861	0.888	0.915	0.920	0.931
HOUSE	0.354	0.364	0.369	0.397	0.425	0.430	0.441
MATERIAL	0.494	0.500	0.503	0.519	0.535	0.538	0.544
SHELTER ON							
MEANS	0.120	0.126	0.129	0.146	0.162	0.166	0.172
HEALTHY ON							
MEANS	0.155	0.172	0.181	0.228	0.274	0.283	0.300
SHELTER	-0.019	-0.007	-0.001	0.030	0.062	0.068	0.080
SHELTER ON							
MALE	-0.114	-0.105	-0.101	-0.078	-0.055	-0.051	-0.043
YOUNGER	-0.109	-0.093	-0.084	-0.041	0.001	0.010	0.026
OLDERS	-0.012	0.006	0.015	0.065	0.114	0.123	0.142
PARTNER	0.027	0.038	0.043	0.070	0.098	0.103	0.113
PARENT	0.042	0.055	0.062	0.096	0.130	0.136	0.149
ETH	-0.203	-0.188	-0.180	-0.139	-0.097	-0.090	-0.074
CAP	0.260	0.269	0.274	0.300	0.326	0.331	0.340
URB	0.411	0.423	0.429	0.460	0.491	0.497	0.509
Y2006	-0.074	-0.063	-0.057	-0.025	0.007	0.013	0.025
Y2007	-0.058	-0.046	-0.040	-0.007	0.026	0.032	0.045
Y2008	-0.027	-0.015	-0.009	0.024	0.058	0.064	0.076
HEALTHY ON							
MALE	0.078	0.094	0.103	0.148	0.193	0.201	0.218
AGE	-0.030	-0.028	-0.027	-0.023	-0.018	-0.018	-0.016
PARTNER	-0.078	-0.062	-0.054	-0.011	0.031	0.039	0.055
PARENT	0.008	0.032	0.044	0.107	0.170	0.182	0.205
ETH	-0.084	-0.057	-0.044	0.025	0.095	0.108	0.135
CAP	-0.062	-0.046	-0.038	0.004	0.045	0.053	0.069
URB	-0.089	-0.069	-0.059	-0.005	0.048	0.058	0.078
Y2006	-0.245	-0.232	-0.226	-0.192	-0.158	-0.152	-0.139
Y2007	-0.182	-0.164	-0.155	-0.106	-0.057	-0.048	-0.030
Y2008	-0.148	-0.130	-0.121	-0.073	-0.025	-0.016	0.002
MEANS ON							
MALE	0.162	0.169	0.173	0.193	0.212	0.216	0.224
YOUNGER	0.069	0.083	0.090	0.125	0.161	0.167	0.181
OLDERS	-0.380	-0.364	-0.356	-0.314	-0.272	-0.264	-0.249
PARTNER	-0.062	-0.054	-0.049	-0.027	-0.005	0.000	0.008
PARENT	-0.178	-0.167	-0.162	-0.134	-0.107	-0.101	-0.091
ETH	-0.207	-0.194	-0.188	-0.153	-0.118	-0.112	-0.099
CAP	0.146	0.154	0.158	0.179	0.200	0.204	0.212
URB	0.229	0.240	0.246	0.274	0.303	0.308	0.319
Y2006	0.100	0.109	0.113	0.137	0.160	0.165	0.174
Y2007	0.030	0.040	0.045	0.072	0.099	0.104	0.115
Y2008	-0.097	-0.087	-0.082	-0.057	-0.031	-0.026	-0.017
IAUTOC WITH							
EDUCATED	-0.105	-0.095	-0.089	-0.062	-0.034	-0.029	-0.018
JOBSTAB WITH							
EDUCATED	-0.272	-0.255	-0.246	-0.200	-0.154	-0.146	-0.128
IAUTOC	-0.111	-0.102	-0.098	-0.074	-0.050	-0.045	-0.036
SOCIO2 WITH							
IAUTOC	-0.034	-0.030	-0.029	-0.019	-0.010	-0.008	-0.004
SAVINGS	0.160	0.167	0.170	0.188	0.206	0.209	0.216
MATERIAL WITH							
SOCIO2	0.101	0.106	0.109	0.121	0.134	0.136	0.141
HEALTH3 WITH							
SOCIO2	0.194	0.202	0.206	0.227	0.248	0.252	0.260
Intercepts							
IAUTOC	4.812	4.825	4.832	4.869	4.906	4.913	4.927
Thresholds							
EDUCATED	0.535	0.572	0.591	0.688	0.786	0.804	0.841
NFAMILY\$	-0.406	-0.366	-0.345	-0.237	-0.129	-0.109	-0.068
NOTHERSS	1.076	1.130	1.158	1.302	1.447	1.475	1.529
JOBSTAB\$	-0.143	-0.099	-0.077	0.039	0.155	0.177	0.220
SAVINGS\$	1.129	1.165	1.183	1.278	1.374	1.392	1.427
SOCIO2\$1	-0.028	0.005	0.022	0.109	0.197	0.214	0.246
SUPPLY\$1	-1.000	-0.962	-0.943	-0.843	-0.743	-0.723	-0.686
HOUSE\$1	-2.086	-2.019	-1.985	-1.806	-1.627	-1.593	-1.526
MATERIAL	-0.135	-0.108	-0.094	-0.023	0.049	0.063	0.090
HEALTH3\$	-2.555	-2.504	-2.479	-2.345	-2.211	-2.186	-2.136
NOILL\$1	-0.709	-0.660	-0.636	-0.506	-0.377	-0.353	-0.304
Residual Variances							
IAUTOC	0.085	0.091	0.094	0.111	0.127	0.130	0.137
HEALTHY	1.000	1.000	1.000	1.000	1.000	1.000	1.000
MEANS	1.000	1.000	1.000	1.000	1.000	1.000	1.000
SHELTER	1.000	1.000	1.000	1.000	1.000	1.000	1.000

CONFIDENCE INTERVALS OF STANDARDIZED MODEL RESULTS

STDY Standardization

	Lower .5%	Lower 2.5%	Lower 5%	Estimate	Upper 5%	Upper 2.5%	Upper .5%
HEALTHY BY							
HEALTH3	0.706	0.751	0.775	0.896	1.017	1.040	1.086
NOILL	0.159	0.175	0.183	0.225	0.267	0.275	0.291

MEANS BY							
EDUCATED	0.661	0.676	0.683	0.721	0.760	0.767	0.782
NFAMILY	-0.195	-0.189	-0.186	-0.169	-0.153	-0.150	-0.144
NOTHERS	0.052	0.060	0.063	0.083	0.103	0.107	0.114
IAUTO	0.712	0.727	0.734	0.773	0.812	0.820	0.834
JOBSTAB	0.525	0.540	0.547	0.585	0.624	0.631	0.646
SAVINGS	0.264	0.271	0.274	0.292	0.309	0.313	0.319
SOCIO2	0.359	0.368	0.372	0.396	0.419	0.423	0.432
SHELTER BY							
SUPPLY	0.862	0.872	0.877	0.903	0.929	0.934	0.943
HOUSE	0.368	0.378	0.384	0.412	0.441	0.446	0.457
MATERIAL	0.511	0.517	0.521	0.537	0.553	0.556	0.562
SHELTER ON MEANS							
	0.119	0.125	0.128	0.144	0.160	0.163	0.169
HEALTHY ON MEANS							
SHELTER	0.150	0.164	0.171	0.208	0.245	0.252	0.265
	-0.017	-0.006	-0.001	0.028	0.057	0.063	0.073
SHELTER ON MALE							
YOUNGER	-0.109	-0.101	-0.097	-0.075	-0.053	-0.049	-0.041
OLDERS	-0.104	-0.089	-0.081	-0.040	0.001	0.009	0.025
PARTNER	-0.012	0.006	0.015	0.062	0.109	0.118	0.136
PARENT	0.026	0.036	0.041	0.067	0.094	0.099	0.109
ETH	0.041	0.053	0.059	0.092	0.124	0.130	0.143
CAP	-0.194	-0.180	-0.172	-0.133	-0.093	-0.086	-0.071
Y2006	0.250	0.259	0.263	0.287	0.312	0.316	0.325
Y2007	0.395	0.406	0.411	0.441	0.470	0.475	0.486
Y2008	-0.071	-0.060	-0.054	-0.024	0.006	0.012	0.024
	-0.056	-0.044	-0.038	-0.007	0.025	0.031	0.043
	-0.026	-0.014	-0.008	0.023	0.055	0.061	0.073
HEALTHY ON MALE							
AGE	0.072	0.086	0.093	0.131	0.168	0.176	0.190
PARTNER	-0.025	-0.024	-0.024	-0.020	-0.017	-0.016	-0.015
PARENT	-0.069	-0.055	-0.048	-0.010	0.028	0.035	0.049
ETH	0.008	0.029	0.039	0.094	0.149	0.160	0.180
CAP	-0.074	-0.051	-0.039	0.023	0.084	0.096	0.119
Y2006	-0.055	-0.041	-0.034	0.003	0.040	0.047	0.061
Y2007	-0.079	-0.061	-0.052	-0.005	0.042	0.051	0.069
Y2008	-0.209	-0.199	-0.195	-0.170	-0.145	-0.141	-0.132
	-0.160	-0.144	-0.136	-0.094	-0.052	-0.044	-0.028
	-0.130	-0.114	-0.106	-0.064	-0.022	-0.014	0.001
MEANS ON MALE							
YOUNGER	0.157	0.164	0.168	0.187	0.206	0.210	0.217
OLDERS	0.068	0.081	0.087	0.121	0.156	0.162	0.175
PARTNER	-0.367	-0.352	-0.344	-0.305	-0.265	-0.258	-0.243
PARENT	-0.060	-0.052	-0.048	-0.026	-0.004	0.000	0.008
ETH	-0.173	-0.162	-0.157	-0.130	-0.103	-0.098	-0.088
CAP	-0.201	-0.188	-0.182	-0.148	-0.115	-0.108	-0.096
Y2006	0.142	0.150	0.154	0.174	0.194	0.198	0.205
Y2007	0.223	0.234	0.239	0.266	0.293	0.299	0.309
Y2008	0.097	0.106	0.110	0.133	0.156	0.160	0.168
	0.029	0.039	0.044	0.070	0.096	0.101	0.111
	-0.094	-0.085	-0.080	-0.055	-0.030	-0.026	-0.016
IAUTO WITH EDUCATED							
	-0.497	-0.441	-0.413	-0.264	-0.115	-0.086	-0.030
JOBSTAB WITH EDUCATED							
IAUTO	-0.511	-0.472	-0.452	-0.348	-0.243	-0.223	-0.184
	-0.446	-0.404	-0.383	-0.270	-0.158	-0.136	-0.094
SOCIO2 WITH IAUTO							
SAVINGS	-0.114	-0.102	-0.095	-0.062	-0.029	-0.022	-0.010
	0.183	0.190	0.194	0.212	0.231	0.235	0.242
MATERIAL WITH SOCIO2							
	0.129	0.135	0.138	0.154	0.171	0.174	0.180
HEALTH3 WITH SOCIO2							
	0.069	0.175	0.230	0.514	0.798	0.852	0.958
Intercepts IAUTO							
	9.145	9.178	9.195	9.285	9.374	9.391	9.424
Thresholds							
EDUCATED	0.528	0.564	0.582	0.678	0.773	0.791	0.827
NFAMILY\$	-0.406	-0.365	-0.345	-0.237	-0.129	-0.109	-0.068
NOTHERS\$	1.075	1.130	1.157	1.302	1.447	1.474	1.529
JOBSTAB\$	-0.141	-0.098	-0.076	0.038	0.153	0.175	0.218
SAVINGS\$	1.127	1.162	1.180	1.275	1.370	1.388	1.424
SOCIO2\$1	-0.028	0.005	0.022	0.109	0.196	0.213	0.245
SUPPLY\$1	-0.974	-0.938	-0.919	-0.821	-0.723	-0.704	-0.668
HOUSE\$1	-2.075	-2.008	-1.974	-1.796	-1.618	-1.584	-1.517
MATERIAL	-0.134	-0.107	-0.094	-0.022	0.049	0.062	0.089
HEALTH3\$	-2.337	-2.299	-2.279	-2.177	-2.075	-2.055	-2.017
NOILL\$1	-0.705	-0.657	-0.632	-0.504	-0.376	-0.352	-0.304
Residual Variances							
IAUTO	0.308	0.330	0.342	0.402	0.463	0.474	0.497
HEALTHY	0.691	0.713	0.725	0.785	0.845	0.857	0.879
MEANS	0.929	0.932	0.934	0.942	0.950	0.952	0.955
SHELTER	0.907	0.909	0.911	0.917	0.924	0.926	0.928