

**The role of Social Networking Site use
in feelings of belonging among
9 to 13 year olds**

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Abstract

Although younger adolescents are increasingly using Social Networking Sites (SNSs) there is little research involving their use of these sites and the possible positive outcomes from their use. There is some evidence that parenting strategies may limit access to the social platforms of the internet. To date, these two concepts have not been examined within the context of each other and thus the indirect effect of parenting strategies on social psychological outcomes has not been measured. This thesis aims to do that by testing a model which predicts that parental perceptions of SNSs are related to SNS use and parenting strategies; parenting strategies are related to SNS use; and SNS use is positively related to feelings of belonging.

Although no causal effects were found in Study 1, it demonstrated a concurrent relationship between SNS use and belonging. The following studies examined different parts of the model using cross-sectional data. Study 2 showed support for a positive link between SNS use and belonging but for boys only. In addition, it found that higher levels of control strategies were related to less intensive use of SNSs. Study 3 found that using a mobile device to access SNSs (versus a fixed device) was positively related to feelings of belonging (being partially mediated by frequency of use). Study 4 found that perceptions of benefits were positively related to warmth strategies as well as SNS use but perceptions of risk were not related to either SNS use or parenting strategies. Higher levels of control strategies were related to non-use of SNSs.

Overall, the results presented in this thesis show some support for the hypothesised model. The evidence suggests that perceptions of benefits are related to SNS use and warmth strategies; and control strategies are negatively related to SNS use. SNS use was found to be positively related to feelings of belonging. However, no direct causal relationships were able to be demonstrated and thus conclusions based on cause and effect relationships cannot be made. Although this thesis showed that these sites may be an important social tool, possible mediating factors as well as the inclusion of other factors in the model should be considered in future research.

Contents

Chapter 1 Theoretical Approach.....	16
1.1. Introduction	16
1.2. A problem-driven approach.....	17
1.3. A multi-theoretical approach.....	18
1.3.1. Theoretical background to belonging and groups.....	18
1.3.1.1. Social Identity Theory (SIT)	18
1.3.1.2. Belonging Theory	21
1.3.2. Theoretical relationship between SNS use and belonging	23
1.3.3. Walther’s Hyperpersonal Communication Theory	26
1.3.4. Theoretical background to parenting styles	29
1.4. Theoretical summary	32
Chapter 2 Introduction to the Key Themes.....	33
2.1. Friendships and belonging	33
2.1.1. Friendship groups.....	33
2.1.2. Group identity.....	36
2.1.3. Group belonging	37
2.2. The role of SNSs	39
2.2.1. Prevalence of SNS use among early adolescents.....	39
2.2.2. Benefits associated with SNS use.....	40
2.2.2.1. Contact with friends.....	40
2.2.2.2. SNS use and development	41
2.2.2.3. Positive associations of SNS interactions.....	42

2.2.3.	Risks associated with SNS use.....	43
2.2.3.1.	Posting inappropriate content.....	44
2.2.4.	Summary of SNSs.....	45
2.3.	Technology and belonging.....	45
2.4.	Parental mediation of internet use.....	47
2.4.1.	Effectiveness of parenting strategies.....	48
2.4.2.	Correlates of internet parenting strategies.....	51
2.4.3.	Measuring internet parenting.....	54
2.4.4.	Perceptions of risks and benefits and their relationship to internet parenting.....	55
2.4.5.	Summary of parenting strategies.....	56
2.5.	Summary of literature.....	57
2.6.	A conceptual model.....	57
Chapter 3 Introduction to the Studies.....		60
3.1.	Methodology.....	60
3.2.	Sampling.....	61
3.3.	Ethical considerations.....	63
3.4.	Measures.....	64
3.4.1.	Belonging.....	64
3.4.2.	SNS use.....	66
3.4.3.	SNS intensity.....	66
3.4.4.	SNS frequency.....	68
3.4.5.	Face to face contact.....	68
3.4.6.	Sociability and Shyness.....	69
3.4.7.	Internet Parenting Strategies.....	70
3.4.8.	Perceptions of SNSs.....	73

3.4.8.1.	Perceptions of possible risks	74
3.4.8.2.	Perceptions of possible benefits	74
3.5.	The study chapters	75
Chapter 4 Testing the Core Model and Addressing the Rich-get-Richer and the Social Compensation Hypotheses (Study 1).....		
		77
4.1.1.	The core model	77
4.1.2.	The rich-get-richer hypothesis	79
4.1.1.	The social compensation hypothesis	83
4.1.2.	Summary	85
4.2.	Method	85
4.2.1.	Participants	85
4.2.2.	Measures.....	86
4.2.2.1.	Measurement model testing	86
4.2.2.2.	Non-SEM analysis measures	88
4.2.3.	Procedure.....	89
4.3.	Results.....	89
4.3.1.	SNS use.....	89
4.3.2.	Testing the core model	89
4.3.3.	Testing the rich-get-richer hypothesis	91
4.3.4.	Testing the social compensation hypothesis	93
4.4.	Discussion.....	94
Chapter 5 SNS use, Belonging and Internet Parenting (Study 2).....		
		100
5.1.	Introduction	100
5.2.	Method	103
5.2.1.	Participants	103

5.2.2.	Measures.....	104
5.2.3.	Procedure.....	104
5.3.	Results.....	105
5.3.1.	Parenting strategies and SNS use	105
5.3.1.1.	Control and warmth strategies	105
5.3.1.2.	The relationship between control and warmth strategies and SNS use/non-use (H7 and H8).....	105
5.3.1.3.	The relationship between control and warmth strategies and SNS intensity (H7a and H8a)	106
5.3.2.	SNS use and belonging.....	107
5.3.2.1.	SNS use.....	107
5.3.2.2.	Differences in feelings of belonging between SNS user and non-users (H9).....	108
5.3.2.3.	Relationship between SNS usage intensity and belonging (H9a)	109
5.4.	Discussion.....	110
Chapter 6 The Martini Effect of Social Networking Sites (Study).....		114
6.1.	Introduction	114
6.1.1.	Mobile connection to others	115
6.1.2.	Social Networking Sites, Mobile Connectivity and Belonging	116
6.2.	Method	117
6.2.1.	Participants	117
6.2.2.	Procedure.....	118
6.2.3.	Measures.....	118
6.3.	Results.....	118
6.3.1.	Use of mobile devices for SNS use	118
6.3.2.	Differences in belonging between mobile device users and non-mobile device users (RQ1).....	119

6.3.3.	Frequency of use (RQ2).....	120
6.3.4.	Face to face contact (RQ3).....	120
6.4.	Discussion.....	120
Chapter 7 Internet Parenting and Perceptions of SNSs. The Perspective of Parents (Study 4).....		
7.1.	Introduction	124
7.2.	Method	126
7.2.1.	Participants	126
7.2.2.	Measures.....	127
7.2.2.1.	Measurement model testing	127
7.2.3.	Procedure.....	128
7.3.	Results.....	128
7.3.1.	SNS use.....	128
7.3.2.	Testing the model	130
7.4.	Discussion.....	133
7.4.1.	Limitations.....	135
7.4.2.	Conclusions	136
Chapter 8 Discussion.....		
8.1.	Summary of aims and key findings	137
8.1.1.	Perceptions of risks and benefits and their relation to internet parenting strategies and SNS use (Hypotheses 1 to 6)	138
8.1.2.	Internet parenting and SNS use (Hypotheses 7 and 8)	139
8.1.3.	SNS use and belonging (hypothesis 9)	140
8.1.4.	Summary of key findings.....	142
8.2.	Implications.....	143
8.2.1.	Theoretical implications.....	143

8.2.1.1.	Belonging theory.....	143
8.2.1.2.	Social skill development.....	145
8.2.2.	Applied	147
8.2.2.1.	Uses of SNSs.....	147
8.2.2.2.	Industry	149
8.2.3.	Summary of implications	151
8.3.	Directions for future research.....	151
8.3.1.	The way in which SNSs are used by preteens.....	151
8.3.2.	Mobile use of SNSs.....	153
8.3.3.	Comparing SNS use to other forms of non-FTF interactions	153
8.3.4.	Psychological outcomes of belonging.....	153
8.4.	Development of the core model.....	154
8.5.	Limitations and considerations.....	157
8.5.1.	Absence of causal evidence	157
8.5.2.	Concepts not measured	158
8.5.3.	Potential issues with the measures used.....	159
8.5.3.1.	Belonging measure and identification of ‘the group’	159
8.5.3.2.	Perceptions of risks and benefits.....	159
8.5.4.	Ability to explain variance.....	160
8.5.5.	Changes in technology	160
8.6.	Conclusion.....	161
	Appendices.....	162
	Appendix i University of York Ethics form covering data collected in March 2011 and July 2011	163

Appendix ii University of York Ethics form covering data collected in February 2012 and November 2012	165
Appendix iii Information and consent form for adult participants.....	167
Appendix iv Information and consent form for Headteacher.....	169
Appendix v Information and consent form for parents.....	172
Appendix vi Children’s questionnaire.....	176
Appendix vii Parental questionnaire.....	191
Appendix viii Descriptive statistics for each item within each measure in each study (child data – Studies 1, 2 & 3).....	207
Appendix ix Descriptive statistics for each item within each measure in each study (parent data – Study 4).....	214
Appendix x Standardised coefficients, standard errors and significance values of the original model tested in Study 4 (Chapter 7).....	219
References.....	220

List of Tables

Table 1 Items in the sociability and shyness measure.....	69
Table 2 Statements from the parental control measure	71
Table 3 Statements from the parental warmth measure	72
Table 4 Number, percentage and mean age of participant in each SNS user group.....	85
Table 5 Summary of measurement models showing the final number of paramters, correlations of error terms and goodness of fit indices	88
Table 6 Reliability alphas, mean scores, and standard deviation of each measure used in analyses other than SEM analyses.....	88
Table 7 Bootstrapped standardised coefficients and significance values of the non- significant pathways of the structural model including control as the parenting variable ...	90
Table 8 Coefficients and significance values of a regression model where SNS use T1, shyness T1 and their interaction term are regressed onto belonging.....	94
Table 9 Reliability alpha, mean score and standard deviation of each measure	104
Table 10 Mean scores for boys and girls for control and warmth strategies together with the results of a t-test showing no significant differences	105
Table 11 Logistic regression model with the SNS use/non-use as the outcome variable and gender, age, control, warmth and their interaction terms as predictors.....	106
Table 12 Beta values, standard errors and significance values of model with SNS intensity as the outcome variable	106
Table 13 Percentage of children who reported using SNSs to contact their friendship group	107
Table 14 Themes identified and the corresponding percentage of responses to the question 'Tell us why you do not use SNSs'	108
Table 15 Standardised coefficients of a regression modelwhen age, gender and SNS user group and their interaction terms are regressed onto belonging	109
Table 16 Standardised coefficients of a regression model when age, gender, SNS intensity and their interaction terms are regressed onto belonging	110
Table 17 Mean score, standard deviation and reliability alpha for each measure	118
Table 18 Coefficients and significance values of a regression model where gender, age, mobile user group and their interaction terms are regressed onto belonging	119
Table 19 Summary of measurement models showing final number of parameters, correlations of error terms and goodness of fit indices.....	128
Table 20 Percentage of parents reporting that their child has a profile on a SNS...	129

Table 21 Themes identified and the corresponding percentage of responses to the question 'Tell use why your child does not use SNSs'	130
Table 22 Descriptives and inferential statistics showing the differences between parents whose data were retained for SEM analysis and those whose data were not retained	130
Table 23..... Standardised coefficients, standard errors and significance values of the final model shown in Figure 17.....	132

List of Figures

<i>Figure 1</i> Parenting style characterised by different levels of control and warmth	30
<i>Figure 2</i> Conceptual model hypothesising relationships between parental perceptions of SNSs (risks and benefits), internet parenting strategies, child use of SNSs and child feelings of belonging.	59
<i>Figure 3</i> Figure showing the section of the conceptual model to be tested in the present chapter. The pathways shown by a sold black line are tested in the present study.	76
<i>Figure 4</i> Hypothesised model of relationships between parental control, SNS use and feelings of belonging across T1 and T2. The names of the paths refer to the hypothesised relationships between each of the variables within this model.	78
<i>Figure 5</i> Hypothesised model of relationships between parental warmth, SNS use and feelings of belonging across T1 and T2. The names of the paths refer to the hypothesised relationships between each of the variables within this model.	79
<i>Figure 6</i> Hypothesised model of the relationships between sociability, SNS use and belonging between two time points with SNS use playing a mediating role. The names of the paths refer to the hypothesised relationships between each of the variables.	82
<i>Figure 7</i> Structural model of relationships between parental control, SNS use and feelings of belonging at and between T1 and T2.).	91
<i>Figure 8</i> Mean sociability scores for each SNS user group at T1 and T2	93
<i>Figure 9</i> Relationship between shyness and belonging among SNS users and non-users	94
<i>Figure 10</i> Parts of the conceptual model to be tested in the present study. Black lines represent the hypotheses to be tested in the current chapter	101
<i>Figure 11</i> Relationship between age and belonging amongst boy SNS users and boy SNS non-users	109
<i>Figure 12</i> Relationship between SNS intensity and belonging amongst boys and girls	110
<i>Figure 13</i> Figure showing the section of the conceptual model to be tested in the present chapter. The relationships shown by solid black lines are tested in the present study (hypothesis 9).	114
<i>Figure 14</i> Mediation model where frequency of SNS use partially mediates the relationship between mobile use/non-use and belonging	120
<i>Figure 15</i> The part of the conceptual model to be tested in the current study, hypothesising relationships between parental perceptions of SNSs (risks and benefits), internet parenting strategies, child use of SNSs and child feelings of belonging.	125

Figure 16 Hypothesised model of relationships between parental perceptions of SNSs, internet parenting strategies and SNS use. The labelled paths (either '+' or '-') denote the hypothesised direction between the two variables. No direction is predicted with all other paths. 126

Figure 17 Section of the conceptual model (see Figure 3) to be tested with a parent sample 133

Figure 18 Hypothesised development of the core model. Solid lines represent significant pathways presented in this thesis. Dotted lines represent hypothesised pathways suggested for future research (see section 8.4). 156

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Declaration

I declare that the work presented in this thesis is solely the work of the author, Sally Quinn and was supervised by Dr Julian Oldmeadow. Some of the material has been published in peer review journals and this is indicated in the relevant chapters. The publications are:

Quinn, S. & Oldmeadow, J. (2013). The Martini Effect and Social Networking Sites: Early Adolescents, Mobile Social Networking and Connectedness to Friends. *Mobile Media and Communication*, 1(2), 237-247

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Chapter 1. Theoretical Approach

1.1. Introduction

The increased use of the internet to communicate in the 21st century has led to many criticisms and worries particularly surrounding children and their use of this technology to contact others. Although some of these concerns are valid and deserve attention from researchers, there is also evidence to suggest that there may be many potential benefits of communicating in this way. Research with adolescents that has emerged during the last decade offers support for the stimulation hypothesis which argues that using the internet to communicate with friends can lead to increased connectedness with others (e.g. Valkenburg & Peter, 2009). One popular medium through which to communicate with friends is Social Networking Sites (SNSs). These sites have been defined as *“web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system”* (boyd & Ellison, 2007 p.1).

Although the use of these sites has been popular among older adolescents, pre-teens are increasingly using these sites (Oppenheim, 2008). However, there is little research involving this age group. It is therefore important to explore whether or not the use of these sites is enabling these younger children to enhance their social connectedness to their friends. Moreover, it is also necessary to establish whether or not the friendships of those children who do not use these sites (either through their own choice or because of parental restrictions) are in any way diminished in comparison to those who do use these sites.

The research into the effects of online communication among children and adolescents has mainly focussed on the older adolescent age group and the majority of this examines the possible negative effects of this type of communication, for example cyberbullying. The EU Kids Online project shows that between 1% and 3% of children aged between 9 years and 13 years have reported being cyberbullied through one or more SNS (Livingstone, Haddon, Gorzig, & Olafsson, 2011). There are also some reports that 25% of adolescents believe the use of SNSs have enabled others to spread rumours about them (Reich, 2010). Although the potential negative effects of online communication are

important to address, it is also important to consider the possible positive effects of this method of communication. One of the aims of this thesis is therefore to examine the use of SNSs among 9 to 13 year olds and to focus on a potentially positive aspect. Specifically, it focuses on the role of SNS use in feelings of belonging to the friendship group.

Research examining the strategies parents use in terms of their child's internet usage has mainly focussed on the effectiveness of these strategies in protecting against risk and harm. However, there is also some suggestion that strategies aimed at protecting children and adolescents may also inadvertently be reducing the positive aspects of online activities (Helsper, Kalmus, Hasebrink, Sagvari, & de Haan, 2013; Livingstone & Helsper, 2008). Since 9 to 13 year old children may be prohibited by parents to use SNSs or have high restrictions placed on their use of these sites, the second aim of this thesis is to examine the role of internet parenting strategies in moderating SNS use.

The key aim of this thesis then is to bring together what has until now been addressed in separate studies. That is (i) internet parenting and its effect on internet use and (ii) internet use of the child and positive effects of this use. Specifically, the main research question guiding this thesis is:

Are internet parenting strategies negatively affecting children's feelings of belonging to the friendship group by restricting or prohibiting access to SNSs?

This is important to address. The technology which enables mediated communication is not only here to stay but is also developing, enabling children and adolescents to be in touch with their friends anytime and anywhere. Since these sites are offering another platform for social interaction, it is vital to explore the potential social benefits that these sites may be able to offer to children who form the *i*Generation

Before the theoretical bases for this model are discussed, the overall approach taken in this thesis, a problem-driven approach will be outlined.

1.2. A problem-driven approach

Within an applied approach to research, it is important to consider that research should be applicable to the real world and consequently should be guided by

problems seen in the 'real world' (Eidlin, 2011). Eidlin argues that attempting to fit a real world problem to one particular theoretical framework may not address the problem directly thus rendering the research unhelpful. Taking a problem based approach therefore puts 'the problem' at the centre of the research rather than theory per se and is a more appropriate approach with which to examine the research question guiding this thesis. Consequently, rather than relying on one dominant theory, this thesis will take a multi-theoretical approach.

1.3. A multi-theoretical approach

Using a multi-theoretical approach is seen as an effective way of developing models which are aimed at addressing 'real world' problems in the social sciences (Bartholomew & Mullen, 2011). In addition, it allows the flexibility needed in order to attempt to provide answers to the problem without being restricted by one particular framework. Moreover, Lobe, Simoes and Zaman (2009) assert that in the instance of children's media use, it is preferable that researchers do not use one dominant theory but use a range of theories and approaches. This enables the researcher to take into account the complexity of children's lives.

1.3.1. Theoretical background to belonging and groups

In order to understand the theoretical background to belonging, it is important to first outline the psychological underpinnings of group membership and behaviour. Social Identity Theory (Tajfel & Turner, 1979) outlines the centrality of groups and their cognitive representations to psychological functioning.

1.3.1.1. Social Identity Theory (SIT)

As a species, human beings are not adapted to existing alone and prefer to be part of groups (Brewer, 1991). Individuals will therefore describe themselves in terms of social categories, for example, 'I am a student', 'I am a football supporter'. It is these social categorisations which make up a person's social identity (Turner & Reynolds, 2010). According to Social Identity Theory (SIT), the self concept exists on a continuum with 'personal identity' on one end and 'social identity' on the other (Turner, 2010). It is thought that most individuals will consider 'the self' to be around the centre of this continuum as this allows a certain degree of individualism, therefore being slightly different to in-group members whilst still being similar enough for a difference to exist between in-group and

out-group members (Turner, 2010). This idea of having a sense of individualism whilst also having a sense of inclusiveness is mirrored in Brewer's Optimal Distinctiveness Model (Brewer, 1991). She proposes that equilibrium is reached when a person has a sense of uniqueness whilst also having a sense of similarities to others. Although the self-concept consists of various personal, individuating characteristics (e.g. "I like old Japanese films and have a personally meaningful tattoo"), one's group memberships can also form an integral part of an individual's conception of the self (e.g. "I am a Man-U supporter"; "I am a Christian"). Where a group does form as part of the self-concept, the norms and values of the group provide a basis for self-governed behaviour and self-evaluation, particularly when the group membership is psychologically salient in a given context. Social identity can therefore be defined as "that part of an individual's self concept that derives from their memberships of social group, together with the emotional and evaluative significance of those group memberships" (Tajfel, 1981, p.255)

Elaborating on the above definition, Tajfel (1981) describes psychological group membership as consisting of three components. Firstly, the cognitive component refers to knowledge of group membership. In the case of children, it has been shown that children as young as five years old can not only describe themselves in terms of group membership (e.g. family member) but that they can also incorporate this dimension into their sense of self concept (Bennett & Sani, 2008). Secondly, the evaluative component relates to how positive a group is perceived to be relative to others, and therefore how positive one feels about being a member of it. For example, many schools include a 'house' system with formal inter-house competitions (e.g. in sports), which can provide a basis for evaluation. Winners of these competitions typically display a great deal of pride in their house and being a member of it. Thirdly, the affective dimension refers to the emotional significance attached to being a group member. For example, being able to rely on the group and having feelings of loyalty and support between group members (Jackson, 2002). Group identity does not therefore solely comprise of knowledge of membership. The value of being part of the group and the significance of this to the individual are also important aspects to consider.

Most SIT research and theorising has focused on adults, where social identities are largely based on pre-defined groups (e.g. occupation, sports teams, university, religious groups, National groups). However, in theory the same principles apply to children and the formation of peer groups. Peer groups can be considered as social systems (Youniss,

McLellan, & Strouse, 1994) and membership of these groups contributes to the social identity of children and adolescents. The similarities between friends within a peer group are developed through two processes (Ryan, 2001). Firstly, the friendship group is influenced by selection. In other words, individuals will choose others who are similar to them. Secondly, the friendship group is influenced by the socialisation process. That is, over time, friends within the friendship group influence the development of these similarities and other characteristics displayed by group members. These then become the group norms and the shared values and standards within the group (either implicitly or explicitly). These group norms dictate to the group members how they should act (Hartup, 1983). For example, the norms of a peer group may be to wear certain style of clothing or to be diligent with school work. Generally, the typical characteristics associated with early adolescent friendships are intimacy and mutual caring (Berndt, 1982) and thus sharing secrets and caring about each group member may also be seen as a group norm within early adolescent friendships. Friendship groups are therefore a valid group contributing to children's and adolescents' own social identity as proposed by SIT. That is, groups are formed when similarities between individuals are perceived and these similarities are developed over time by other in-group members to become the accepted group norms which are characterised by intimacy and mutuality.

SIT provides a relevant theoretical basis outlining not only how groups form but how these groups are maintained through interactions between group members. It also provides a theoretical basis for the importance of group membership to an individual. Moreover, social identity is particularly strong during early adolescence (Tanti, Stukas, Halloran, & Foddy, 2010) and great importance is placed on having a bond with these groups (Kroger, 2000). Specifically in relation to this thesis, the evidence shows that peer groups are an important part of the self-concept for children and adolescents and that feeling as though one has a peer group with which to identify is particularly meaningful to the age range of interest. Although one of the main focuses and mostly researched aspect of SIT is in attempting to explain intergroup relationships, this is not a key part of the current thesis. At a basic level, SIT enables the theorising of group formation and group membership. In the instance of this thesis then, SIT is not used to discuss intergroup relations (i.e. relations between friendship groups) but to provide a basis for the focus of this thesis which relates to one of the affective aspects of group membership. That is feelings of belonging.

1.3.1.2. *Belonging Theory*

Baumeister and Leary (1995) propose that feeling as though one belongs is a fundamental human need. They assert that it is an evolutionarily adapted need which has had positive effects such as being able to share resources with others and offering a protective environment from external threat. In their extensive review of the literature relating to belongingness, Baumeister and Leary show that a lack of belongingness can contribute to both physical and mental illness. For example, feelings of belonging can have positive effects such as feelings of happiness, calmness and contentment however when one feels excluded or feels that an important relationship is threatened, feelings of anxiety, depression or loneliness can emerge. It is important to note that these negative feelings can also be a result of a *perceived* threats, rejection or exclusion or even *perceived* reduction in acceptance (Leary, 2001).

The idea that human beings need to belong can be supported by literature which focuses on ostracism. Bastian and Haslam (2010) report that socially excluded individuals perceived themselves and the perpetrators as being somewhat less human when compared to those who were not socially excluded. In addition, similar to Baumeister and Leary (1995), some authors have argued that the response to ostracism is an evolutionary adaptive one which evokes pain or distress in order to alert the individual that a change to the situation is necessary (Williams, 2007). Williams also argues that this pain or distress can almost be described as physical pain and this has been supported by brain studies (e.g. Eisenberger, Lieberman, & Williams, 2003). Being ostracised can have similar effects to feeling as though one does not belong. For example, it has been argued that when ostracism is experienced over a length of time, it can lead to depression (Williams, 2009) and unintentional ostracism has been found to have similar outcomes to intentional ostracism (Zadro, Williams, & Richardson, 2004).

In order to fulfil belonging needs, Baumeister and Leary (1995) suggest that individuals need to have (i) frequent interactions with others where (ii) the relationships with these others are characterised by stability and reciprocity of caring and concern. The idea that feelings of belonging or feelings of relatedness are characterised by reciprocated love and care is also supported by Deci and Ryan (2000). Having frequent interactions with important others and being in relationships characterised by reciprocal caring therefore leads to optimum feelings of belonging (Baumeister and Leary, 1995). In addition to this, Hagerty, Williams, Coyne, and Early (1996) assert that in order for one to feel as though

they belong they need to feel valued, loved and needed. Specifically in terms of group belonging, they note that group members need to feel as though they share similar characteristics with other group members and to feel as though they fit in with the group. These latter points result in ones greater feelings of group membership and hence feelings of belonging to that group.

The concept of social capital might also be related to feelings of belonging. Social capital refers to the resources provided by one's relationships with other people (Coleman, 1988). The degree of resources provided may depend on the extent to which one is embedded in these relationships (Morrow, 1999). These resources can be such things as trustworthiness, reciprocity, information and social support (Coleman, 1988; Helliwell & Putnam, 2004). Social capital has been found to be correlated with several positive factors such as lower crime rates, better child welfare and improved academic performance (Helliwell & Putnam, 2004). It has also been demonstrated to have a positive effect on wellbeing. For example, using several sets of extensive data (e.g. the World Values Survey and the European Values Survey), Helliwell and Putnam (2004) report that interactions with friends as well as having a sense of trust between people are positively related to subjective wellbeing such as life satisfaction and happiness. Having good relationships with friends that are characterised by reciprocity, trust and social support can help to improve one's social capital and thus have a positive effect on wellbeing. Within this context of wellbeing, social capital has also been reported to be positively related to a sense of belonging. Forrest and Kearns (2001) report that neighbourhoods which have a high degree of social cohesion and social capital result in residents having greater feelings of belonging. However, it is difficult to ascertain the direction of causality here. For example, Morrow (1999) suggests that having a high sense of belonging can have a positive effect on social capital and so it is possible that there is a cyclical relationship between these two concepts. That is, having a high degree of social capital may result in an individual having a high sense of belonging and this in turn results in the individual perceiving themselves to be rich in social capital. Hence, social capital might be both a cause and consequence of feelings of belonging.

The evidence suggests that feeling as though one belongs is a core human need which when fulfilled or thwarted can have effects on one's physical and mental wellbeing. In response to this innate need, human beings will actively seek out positive, mutually caring relationships with others and put time and effort into maintaining these relationships.

Within their review of the literature, Baumeister and Leary (1995) argue that the strength of the need to belong may vary between individuals and that once an individual's need has been satiated they may not be motivated to carry on searching for relationships to satisfy this need or indeed may stop maintaining relationships which do not contribute to this need. Conversely, those whose levels of need to belong are high will carry on being proactive in gaining relationships to fulfil this need whilst others' needs have been met by existing relationships. This variation in the need to belong has been reported to have an effect on loneliness where those having a higher need to belong report having higher levels of loneliness (Mellor, Stokes, Firth, Hayashi, & Cummins, 2008). There are therefore important differences between the need to belong and actual feelings of belongingness. That is, the need is what drives people to seek out important relationships whereas feelings of belongingness are what results from these caring relationships. It is important to make this distinction. Just as different people may need different amounts of food to satiate their hunger, so too might different people need different amounts or quality of friendships or group memberships to fulfil their need to belong. These are two distinct concepts: the need to belong being just that (a need) and feelings of belonging being the affective result when this need has been met. This thesis focuses on this affective result – that is actual feelings of belonging.

1.3.2. Theoretical relationship between SNS use and belonging

Belonging theory states that individuals have a fundamental need to belong, and this acts as a motivational force driving individuals to interact with others and maintain caring relationships (Baumeister & Leary, 1995). This need results in people seeking out platforms on which they can fulfil their belonging needs. SNSs may be one such platform. For example, SNSs offer ways in which early adolescents in particular can promote themselves as a member of a certain friendship group, displaying the characteristics associated with the group – displaying group norms (e.g. stating they like the same music as the rest of the group or showing photos where they are wearing clothes which are conducive to the image of the friendship group). There has been a body of research which has examined presentation of the 'self' on SNSs (e.g. Facebook). For example, Mehdizadeh (2010) reports that Facebook is used as a way to present the self to others with males being more likely to use the aspects of the site which facilitate verbal expressions of the self (e.g. the 'About me' and 'Notes' sections) whereas females are more likely to use the main photograph element to present the self to others. It is not surprising then that in another study, Stano, (2008) reported that women were more likely to change their main

photograph and more likely to choose photographs in which they looked attractive. This research demonstrates that these sites can be used to display parts of the self that are conducive with the norms of one's social groups.

There is also research which suggests that presenting the self on SNSs can consolidate feelings of group membership. In a qualitative study, Manago, Graham, Greenfield and Salimkhan, (2008) held group interviews with 18-23 year olds on their use of MySpace. The authors identified three key themes of self presentation among which was social identity (the other two being personal identity and gender identity). Participants talked about how MySpace enabled them to consolidate their identity to a group by displaying connections to other group members. For example, when one has a conversation with another group member on MySpace, this conversation takes place in front of an audience, advertising the links between the people involved in the conversation. In addition, participants talked about how MySpace can be used to share insider information or jokes. This deepens their sense of social identity and portrays them as a desirable group member, valued by others. This self presentation then on SNSs can be one way in which feelings of belonging to a group might be enhanced. In addition to this research which focuses on the specifics of online self presentation, there is some evidence to suggest that using SNSs to present the 'self' might impact positively on wellbeing. Kim and Lee (2011) demonstrated that portraying oneself in a positive light (e.g. uploading photographs in which one looks happy) on Facebook was significantly associated with feelings of happiness. They also found that portraying oneself in a more realistic way (e.g. expressing negative emotions) led to higher perceptions of social support which in turn was positively related to feelings of happiness. This study demonstrates that using SNSs such as Facebook to present the self can have an effect (either directly or indirectly) on an element of subjective wellbeing.

Information presented by the self may not be the only element of SNSs which contribute towards others' perceptions. Warranting Theory posits that more value will be attributed to information which is a more accurate reflection of that person. In the online world, this might refer to the degree to which online information reflects what the person is really like in offline settings (Walther & Parks, 2002). Hence some information might have a higher warranting value than other information. Specifically, Walther and Parks (2002) propose that the warranting value of information is "derived from the receiver's perception about the extent to which the content of that information is immune to manipulation by

the person to whom it refers” (p.552). For example, information provided by a Facebook profile owner will carry less warranting value than information provided on that profile by a Facebook friend. This effect has been demonstrated over a number of studies conducted by Walther and colleagues. Walther, Van der Heide, Hamel and Shuman (2009) showed that perceptions of levels of extraversion of a Facebook profile owner were greatest when both the profile owner declared themselves as having extravert characteristics (e.g. liking partying) and their friends leaving messages on their profile with reference to these characteristics (e.g. ‘great party last night’). Perceptions of attractiveness of a Facebook profile holder were also maximised when friends of the profile holder left information on their profile pertaining to this. Moreover, Walther, Van der Heide, Kim, Westerman and Tong (2008) report that when positive comments are left by friends on a Facebook profile, then the Facebook profile owner is perceived as more attractive and more credible. These studies demonstrate the powerful effect of the information left by others on SNS profiles on perceptions of the individual’s characteristics and likeability.

With reference to belonging to groups, information left by other group members on a person’s SNS profile may have the potential to hold more weight in demonstrating group membership than information left by the individual. For example, Person A might post a comment on a photograph posted on Person B’s Facebook profile (e.g. ‘love your top in this pic’). This comment could reiterate the fact that Person B wears clothes which are considered normative within the friendship group (which Person A is a member of). Being seen by other group members then, this comment could potentially contribute towards enhanced feelings of group membership and belonging. This is because according to Warranting Theory, this comment might help to increase other group members’ perceptions of Person B’s group membership over and above information posted by Person B themselves since it is less likely to be manipulated by Person B. It is therefore possible that SNSs could provide a platform on which others’ comments and information can indirectly contribute to feelings of belonging to the group.

SNSs also offer more opportunities to display behaviours and to be the recipient of behaviours which demonstrate care and concern for other group members (one aspect important to feelings of belonging). Research has demonstrated that using SNSs might help to contribute to levels of social support. For example, Liu and Yu (2013) report that Facebook use accounted for 23% of variance in online social support which in turn had a small but significant direct effect on wellbeing ($b = .10$). Moreover, online social support

had an indirect effect on wellbeing, with general social support being a significant mediator of this relationship. This model accounted for 39.9% of the variance in wellbeing demonstrating that sites such as Facebook may have an important relationship to play not only in social support but in wellbeing. There is also some evidence that communicating online might enhance friendships through further opportunities for self disclosure (Valkenburg & Peter, 2009a). This sharing of information is thought to lead to enhanced relationships and so for both recipients and instigators, this 'sharing' might result in feelings of being valued, loved and needed (all of which help aid towards feelings of belonging, Hagerty et al., 1996). Thus, SNSs may offer a platform on which group belonging might be optimised.

Using the social aspects of the internet has also been found to be implicated in social capital. Wellman, Haase, Witte and Hampton (2001) report that the online environment helps to supplement social capital by extending offline relationships. That is, the internet is used as a way to interact with people already known in the offline world and thus is used to maintain these friendships as part of one's social capital. In addition, specific to SNSs, it has been shown that Facebook use is associated with social capital being used to maintain close relationships (Ellison, Steinfeld, & Lampe, 2007). As discussed in section 1.3.1.2, social capital and belonging are closely related. Hence, if SNSs have been demonstrated to be associated with social capital, then there is evidence to suggest that SNSs might also help towards feelings of belonging.

SNSs may therefore be being used as a way to attempt to satiate one's need to belong and their use may result in higher levels of feelings of belonging. Indeed, Nadkarni and Hofmann (2012) propose that one key factor driving adults' use of Facebook is the need to belong (see section 2.3 for more discussion on this) and Ledbetter et al., (2011) report a small but significant relationship ($b = .18$) between Facebook communication and relational closeness in an adult sample. It is therefore hypothesised that using SNSs to contact friends will result in enhanced feelings of belonging to the friendship group among young adolescents.

1.3.3. Walther's Hyperpersonal Communication Theory

Walther argues that computer mediated communication (CMC) has mainly two characteristics which are beneficial to relationships with others, (i) reduced cues and (ii) asynchronism.

One characteristic of the online environment is the lack of cues and this has been hypothesised to have an effect on the communication with others. Walther (2007) describes that when one first meets another in FTF situations, physical aspects such as how one looks or sounds contribute to the first impressions of the person. However, in CMC this is not available and thus has less 'leakage'. Walther describes how the reduced cues of online communication results in less information with which to form impressions of the CMC partner. This results in the 'filling in' of information with positive biases. Moreover, the information which is presented is usually selected carefully by the sender in an attempt to present their self in an optimal way. Both these factors, Walther argues, leads to the idealisation of CMC partners. This lack of information and the idea of 'filling in' have been supported by Hancock and Dunham (2001). They report that compared to participants who communicated FTF, those who communicated via CMC were more likely to report that they could not make a judgement about aspects of their partner's personality (extraversion, agreeableness and neuroticism). Moreover, in the instances where they did make a judgement, CMC participants were more likely to make more extreme personality judgments about their partner. However, the literature examining the reduced cues element of CMC has tended to focus on relationships with others who are either not known to the individual offline or with whom there is little FTF interaction. For example, Jiang, Bazarova & Hancock (2011) report that higher levels of intimacy were reported among participants who had never met before when communicating via CMC compared to those who communicated FTF and Jiang & Hancock (2013) showed that greater intimacy was reported among long distance romantic couples compared to those who lived in close proximity to each other. Moreover, they also demonstrated that long distance couples were more likely to idealise their partners by reporting that their partner self-disclosed to a higher level than was actually the case.

In the current thesis, communication via SNSs is examined in the context of communication with the main friendship group from school (thus being with people known very well to the user in the offline world and seen regularly in FTF settings). It is clear therefore that some of the aspects examined in research relating to reduced cues do not hold. For example, one will be less likely to 'idealise' friends since FTF communication is a major part of interactions with these friends. Moreover, the studies presented in this thesis examine CMC via SNSs. These sites include visual cues to some extent in that users are able to post photographs and videos of themselves, leaving less to the imagination of the recipient about the characteristics of the sender. Nevertheless, these sites do offer some

degree of reduced cues. For example, at the time of interaction within FTF settings, one has to pay attention to auditory and visual stimuli, thus using cognitive resources to interpret these stimuli. However, according to Walther's Hyperpersonal theory, the reduced cues of CMC allow more cognitive resources to be redirected to the content of the communication. For example, consider an early adolescent SNS user sat at their computer updating their Facebook status. In the moment of this communication, they do not need to manage the way they look or sound to people who will read their status. Their cognitive resources can therefore be re-channelled into producing an effective message (or status update, for example). Although it is accepted that the recipient will have access to information about how this user looks (in the form of photos and possibly videos) thus diminishing any effect of reduced cues, in the moment of communication there is still some element of reduced cues present. This therefore allows more cognitive resources to be spent on the actual communication. This type of reduced cues may allow for sensitive topics to be discussed since visual and auditory signals do not need to be managed by the individual. This feature of CMC might be beneficial for early adolescents who may want to talk about intimate topics such as puberty. Sharing intimate thoughts and feelings with friends (known as self-disclosure) has been shown to be conducive with friendship development (Asher, Parker, & Walker, 1996) and self-disclosure is seen to increase between friends during early adolescence (Buhrmester & Prager, 1995). The reduced cues on SNSs (although limited in comparison to other CMCs) may therefore be an important aspect especially for early adolescents.

Asynchronicity refers to the potential time delay between exchanges within CMC. FTF contact between two people requires both actors to respond within a certain socially acceptable time frame and for both to be present within the same geographical space. This therefore imposes restrictions upon potential communication with others as well as restrictions on the time available to consider both messages sent and subsequent responses to these messages. CMC however affords users the option of asynchronous communication. This means that one can communicate with others at a time convenient to them and can also communicate with others while carrying out other activities.

The asynchronicity of CMC also affords the users more control over their communication with others. For example, CMC offers time to consider how to phrase messages or respond to messages (this aspect overlaps slightly with the reduced cues element since more time and cognitive resources can be re-directed into the consideration

of the message). This might be particularly important when responding to a message which is sensitive in nature. One can also edit communication before it is sent via CMC, something which is not permitted in FTF communication. This might therefore allow more thoughtful responses to messages, thus improving the quality of the communication. As Harasim states 'participants can take time to formulate their ideas into a more composed and thoughtful response, contributing to improved quality of communication' (as cited in Walther, 1996, p.26).

Walther's Hyperpersonal Theory offers some theoretical basis for the benefits of CMC (and therefore SNS communication) beyond those of FTF settings. The asynchronicity of SNS communication allows users to communicate at their own convenience, allowing time to consider responses while the reduced cues may offer increased discussion of intimate topics (although it is accepted that the effect of this element of the theory may be diminished in terms of SNS use with known others) . Both factors may therefore help improve relationships with others. In relation to the processes conducive with increasing feelings of belonging, SNS communication offers further opportunities for positive interactions with others beyond FTF communication. Moreover, SNSs offer a platform to nurture caring bonds between friends through, for example, improved quality of communication and the discussion of intimate topics.

It is therefore important to consider how the use of SNSs by 9 to 13 year olds may be restricted or prohibited. The ways in which parents manage their child's online behaviours have the potential to prohibit or restrict their child's access to SNSs. The theoretical background to the different parenting strategies and styles will now be discussed.

1.3.4. Theoretical background to parenting styles

The different types of practices which parents use to parent their children generally have been the source of research for a number of years. The theoretical basis of parenting styles outlined by Baumrind (1966) however, are now widely accepted and form the foundation of the parenting styles and strategies discussed in the literature in relation to parenting children's media use.

The three parenting styles outlined by Baumrind (1966) are Authoritative, Authoritarian and Permissive. Each of these styles are characterised by varying levels of 'control' and 'warmth' (see Figure 1). Control refers to the enforcement of rules whereas warmth refers to a more discursive approach to parenting, discussing rules with the child and allowing the child some level of autonomy (Baumrind, 1966)

Parents who exhibit an authoritarian style of parenting tend to employ high levels of control and low levels of warmth. Baumrind describes these parents as those who are more likely to try to control their child's behaviour. This is driven by their desire for their child to live by certain rules and standards. The child of an authoritarian parent is expected to obey rules without question and is not provided with an opportunity to discuss these rules. In this sense, the autonomy of this child is restricted. However harsh this style of parenting may seem, Baumrind points out that the underlying concept of this sense of

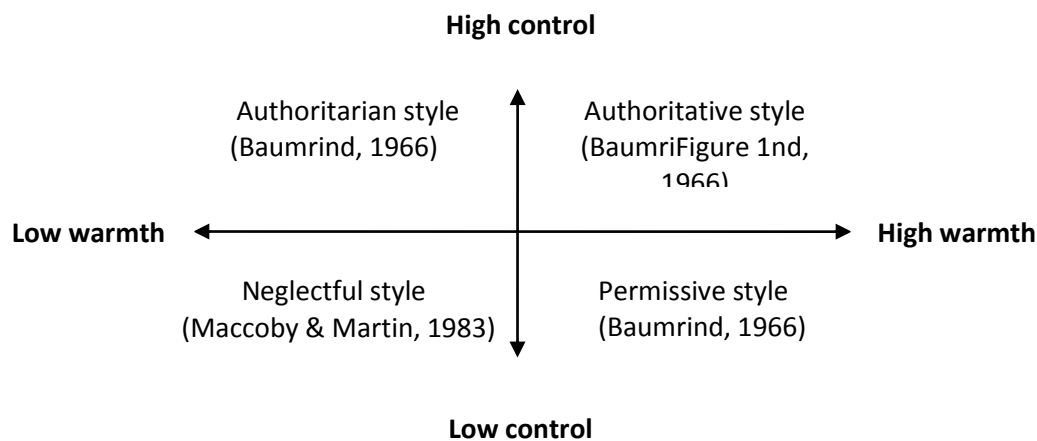


Figure 1 Parenting Styles characterised by different levels of control and warmth

order and control is the parent's concern with their child. That is, they wish their child to develop into an adult who respects rules and conducts themselves in a socially acceptable manner.

The authoritative parenting style is characterised by both high control and high warmth. Parents who adopt an authoritative style of parenting consider the autonomy of their child but also expect their child to adhere to the family rules. Unlike the authoritarian style, an authoritative parent will encourage discussion with their child, reasoning with their child about the rules set out by them as a parent. The authoritative parent appreciates that children may have their own views about certain rules or activities and

thus may want to behave in a way which is different to that expected by parents. This parent will however enforce control when they need to.

The permissive parenting style is characterised by high warmth and low control. According to Baumrind (1971), these parents would allow the child to 'regulate his own activities as much as possible' (p.889) whilst involving the child in any decisions which are made. In order to attain what they want, the permissive parent tends to use reason with their child rather than the enforcement of rules (Baumrind, 1966). The central tenet to this style of parenting is that the child is free to develop in their own way and time and not in a way that is trained by the rules and regulations enforced by adults. An example of this is allowing a child to be out with their friends whenever they like and for as long as they like.

This model of these three parenting styles was further developed by Maccoby and Martin (1983) and includes a fourth parenting style, 'uninvolved' or 'neglectful' (also referred to as *Laissez-faire*). This parenting style, as the name suggests, manifests itself by the parent having little involvement with the child, showing low levels of both warmth and control. Maccoby and Martin point out that this type of parent is likely to avoid investing time in their child, keeping the child at a distance from them. They will however do the minimum expected of them in terms of the functionality of the child (e.g. clothe and feed them). However, there are few or no rules and low or no expectancies in terms of the behaviour of the child. Parents who exhibit this style of parenting can often be emotionally unavailable to their child, show hostility towards their child and this can sometimes manifest itself in physical abuse towards the child.

The parenting styles set out by Baumrind (1966) and Maccoby and Martin (1983) have provided a theoretical framework for research which examines the way in which parents manage their child's use of various types of media (e.g. television, internet). Often, the strategies of control and warmth are examined separately in media literature and can sometimes be referred to as 'restrictive' and 'active' respectively (Nathanson, 2001). Restrictive or control strategies refer to the rules set out by parents concerning the use of a type of media, for example the amount of time allowed online or the time of day the child is allowed online (Eastin, Greenberg, & Hofschire, 2006; Livingstone & Helsper, 2008; Lwin, Stanaland, & Miyazaki, 2008). Active strategies or warmth strategies involve more interaction between parent and child. For example, talking to children about possible online risks and ways to deal with such risks, sitting with the child whilst they are online (also

referred to as co-use or co-viewing, Eastin et al., 2006; Livingstone & Helsper, 2008) and the parent recommending websites to the child (Lee & Chae, 2007; Livingstone & Helsper, 2008; Lwin et al., 2008) are all examples of warmth or active strategies.

These control and warmth strategies set out by Baumrind (1966) have therefore provided a sound framework with which to assess the strategies parents use to manage their child's online activities and whether these strategies place restrictions on access to SNSs.

1.4. Theoretical summary

The core research question guiding this thesis is therefore underlined by several theoretical principles. Firstly, the friendship groups of children and adolescents are valid groups which contribute to social identity and are therefore groups which children and adolescents attribute great importance to. Secondly, as outlined by Belonging Theory, feeling as though one belongs to these groups is important to the psychological wellbeing of each child and this can be achieved through positive interactions with these friends, with an emphasis on the reciprocity of care and concern. Thirdly, Walther's Hyperpersonal Communication Theory provides evidence that CMC has characteristics which surpass FTF communication and hence these characteristics may help to fulfil belonging needs. Lastly, the parenting styles and strategies outlined by Baumrind (1966) and Maccoby and Martin (1983) provide a sound basis on which to characterise the ways in which parents manage their child's use of the online environment and whether the child's use of SNSs is prohibited or restricted in some way. Together, these theories provide an effective multi-theoretical basis with which to begin to explore and test the overall research question.

Chapter 2 will provide an introduction to the key themes of the thesis. It will present a review of the literature in reference to friendships among early adolescents, the use of SNSs by adolescents, and the effectiveness of the parenting strategies used by parents to manage their child's internet use. The hypothesised relationships are then shown in the form of a model. This model forms the basis of the work presented in the empirical chapters.

Chapter 2. Introduction to the Key Themes

This chapter will provide an overview of three key areas relevant to the thesis. Firstly, the nature of friendship groups will be discussed. This will be followed by a discussion on friendship group identity and belonging specifically in relation to the age range of interest (9-13 year olds). Gender differences in group belonging and identity will also be considered. This will be followed by a review of the literature relating to the use of SNSs. Since there is little research on pre- 13 year olds and SNS use, the majority of the literature discussed will focus on older adolescents, examining the positive and negative aspects of using these sites. The discussion will then turn to how the use of technology other than SNSs has been found to be implicated in feelings of belonging. Lastly, parental mediation of children's online activities will be discussed, reviewing the evidence on the effectiveness of these strategies as well as the evidence for various factors associated with the use of different levels of the strategies, including a discussion of parental perceptions of the internet.

2.1. Friendships and belonging

The age group of concern in this thesis is often defined as the transition from middle childhood to adolescence. Although adolescence is difficult to distinguish in terms of a specific age, early adolescence has been described as a developmental transition period spanning ages 9 to 14 years (Oberle, Schonert-Reichl, & Zumbo, 2011). It is characterised by a desire for autonomy and an increased focus on peers (Steinberg & Silverberg, 1986). The following literature review will therefore focus on friendships during this developmental transition.

2.1.1. Friendship groups

Although a friendship group may form around one particular friendship between two people (Halliman, 1995) or to contain many individual friendships (Brown, 1990; Cotterell, 2007), it is important to make the distinction between dyadic friendships and friendship groups. Cairns, Leung, Buchanan and Cairns (1995) argue that examining the groups that children and adolescents are a part of provides a much broader view of their social relationships than examining dyadic friendships. Friendship groups also provide social resources above and beyond those provided by individual friendships, such as a sense of social identity and offering the group member with a sense of reassurance of worthiness to

the group (Cotterell, 2007) . Friendship groups also offer a sense of inclusion and belonging (Furman & Robbins, 1985). In addition, adolescents have reported that their main reason for group affiliation is to gain social support from other group members (Brown, Eicher, & Petrie, 1986). Friendship groups are conceptually different to dyadic friendships and the 'group' rather than individual relationships with friends will form the focus of this thesis.

During middle childhood, friendship groups are based primarily on aspects such as shared activities and shared geographical location. However, in adolescence, friendship groups begin to be described in abstract terms such as shared values and beliefs (Kroger, 2000) or loyalty and intimacy (Savin-Williams & Berndt, 1990). In addition, Savin-Williams and Berndt report that in early adolescence the quality of friendships is more important than the quantity of friendships. Friendships might also play an important role in terms of social capital during adolescence. During this time, friendships tend to be characterised by intimacy and trust and thus fit within Coleman's (1988) description of 'social capital' (see section 1.3.1.2). From these friends, individuals begin to develop attitudes about their lives (e.g. school work, music) as well as aspirations for their future (Harris & Cavanagh, 2008).

Friendship groups are important in terms of development, especially during adolescence. As already mentioned, adolescence is characterised by a need for autonomy. Unsurprisingly then, it is during this time (beginning at early adolescence) that the source of guidance for identity development as well as the source of social support, shifts from parents and the home environment to the friendship group (Halliman, 1995; Kroger, 2000). Consequently, throughout adolescence, relationships with parents become more distal whilst those with friendship groups become closer (Collins & Repinski, 1994). For example, it has been reported that during adolescence time spent with friends is almost twice that spent with parents (Brown, 1990). Adolescence is therefore a period where a great amount of time and effort is invested in expanding one's social world and making it more diverse as well as becoming involved in activities outside of the family environment (Collins, 1997). This reduction in reliance on the family during early adolescence may explain why, when describing the self in terms of relationships with others, pre-adolescents tend to describe family relationships rather than peer relationships and early adolescents report more details about peer relationships than family relationships (Tanti, Stukas, Halloran, & Foddy, 2008). This is not to say that parents and the family environment are not important during adolescence. More that adolescence is a transitional period where more emphasis is gradually put on relationships with friends (providing a sense of autonomy away from the

family environment) while familial relationships are still maintained to some degree (Collins, 1997). Friendship groups are therefore important groups in the lives of early adolescents, helping them to achieve a sense of autonomy.

Friendship groups tend to comprise of friends who are similar in some way (Hartup, 1983). Specifically in early adolescence, these friendships tend to be characterised by intimacy and mutual responsiveness (Berndt, 1982; Newcomb & Bagwell, 1996). Features of intimacy can be such things as sharing intimate thoughts and feelings with friends (known as self disclosure) and/or having intimate knowledge of friends. Achieving intimacy in friendships is important as it is linked with improvements in self-esteem and aids towards the development of social skills (Berndt, 1982). Mutual responsiveness to needs and desires refers to the reciprocity of pro-social behaviour and helping behaviour is seen to increase between friends during early adolescence (Buhrmester, 1996). This behaviour is carried out with the expectation that friends will act the same way in return (Youniss, 1980). Intimacy during early adolescence therefore seems to be an important aspect of relationships with friends.

However, there is some evidence of gender differences during early adolescence in terms of intimacy with friends. Girls' friendship groups tend to be characterised by more intimacy and mutual responsiveness than those of boys' at this developmental stage (Buhrmester, 1996). Savin-Williams (1980) describes girls' friendship groups as 'emotional support systems' (p. 353). Moreover, girls tend to place more importance on communality among members of their friendships group (Buhrmester, 1996). This might help explain why girls' friendship groups tend to be smaller than those of boys (Maccoby, 2002). Specifically, Savin-Williams (1980) argues that early adolescent girls' friendship groups tend to contain around four members since a larger group than this makes intimacy more difficult. Boys' friendship groups however are larger in size and characterised by competitiveness, for example taking part in sports (Maccoby, 2002). In addition, boys' friendships tend to place more focus on agency than communality (Buhrmester, 1996).

There is evidence that the social skills of girls during early adolescence, in particular self disclosure skills, are more developed than those of boys and thus enables their friendships to have increased levels of intimacy and mutual responsiveness than boys' friendships (Buhrmester, 1996). However, there is no clear evidence of causality. Achieving intimacy with friends is more conducive with achieving communality rather than achieving

a sense of agency and may therefore be more beneficial to girls' friendships than boys'. Thus, although girls' self disclosure skills are more developed than boys' during early adolescence, this might be due to the opportunity to practise these skills more frequently (Buhrmester, 1996). Thus, the socialisation process during childhood and early adolescence might explain these gender differences in intimacy rather than girls being predisposed to develop social skills at a greater rate than boys.

Intimacy and mutual responsiveness are therefore typical characteristics of early adolescent friendships with girls' friendships tending to be more intimate than those of boys'. Although there may be gender differences in the nature of boys' and girls' friendship groups at this stage, it is also important to consider identity to the group.

2.1.2. Group identity

Belonging seems to be important for early adolescents. Bornholt, (2000) reports that feeling as though one belongs to a group is more important during early adolescence than a having a sense of individuality. In relation to identity to the friendship group, it has been suggested that girls show a higher level of group identity (Kiesner, Cadinu, Poulin, & Bucci, 2002), to attribute more importance to being a group member (Brown et al., 1986) and to place more importance on the attributions within the group rather than status within the group (Benenson, 1990). Boys, on the other hand have been found to place more importance on status within the group (Benenson, 1990) and for these statuses to be hierarchical in nature (Corsaro & Eder, 1990). However, there is some suggestion that the friendship groups of boys are more cohesive than those of girls (Maccoby, 2002). Maccoby describes how boys are more prone to engaging in group behaviour than girls and to protect members of the friendship group (e.g. from interfering adults). In addition, she reports that when boys are asked to name friends in their friendship group, these friends are more likely to reciprocate this nomination of group membership, unlike girls. Hence, boys' friendship groups are more interconnected than girls. Maccoby therefore argues that although boys' groups may not be characterised by intimacy, the members of the group may be more used to working together as a group and hence have a greater level of identity as a unit.

Girls' and boys' group identity may therefore be different in nature. Although girls may place more importance on being a group member and be more preoccupied with the

characteristics of the group, boys may have a stronger sense of togetherness with other members of the group.

2.1.3. Group belonging

Newman, Lohman, and Newman (2007) outline that belonging to the friendship group during adolescence has three components: members of the group must have some level of group affiliation; group members have an emotional attachment to the group; and group members place a high level of importance on group membership. These components echo those outlined by SIT in terms of general group membership (Tajfel, 1981).

Drolet and Arcand (2013) report that 12 and 13 year old children place great importance on being accepted by a group of friends at school and to have a sense of belonging within this environment. In addition, feelings of belonging in the school setting can have important effects on children. For example, Osterman, (2000) reports that children who feel that they belong at school have higher levels of motivation and are more competent which therefore leads to greater scholastic performance and engagement. Furthermore, those children who feel that they are not part of the school may be at a higher risk of developing behavioural problems, to have lower scholastic achievements and to develop feelings of loneliness and in extreme cases have suicidal feelings. This finding is also supported by Oyserman, Brickman, Bybee, and Celious (2006) who found that perceptions of looking like an in-group member increased feelings of belonging to the group which in turn had an effect on school engagement and behaviour in the classroom. This suggests that visual appearance is an important part of feeling as though one belongs to a group.

Feeling as though one belongs to the friendship group may also be important during early adolescence due to the changes in schooling. In the UK, at age 11 years, children move from primary school to secondary school. This transition involves leaving the familiarity and relatively small environment of the primary school and experience the transition to a much bigger and unfamiliar environment of secondary school. This unfamiliarity may contribute to the importance of feeling part of a group since this group membership can make children feel as though they are not alone in confronting the new experiences and challenges of secondary school (Bornholt, 2000; Brown, Mory, & Kinney, 1994; Tanti et al., 2010). The friendship group at school is therefore an important group to belong to for early adolescents.

Differences in friendship group belonging have been reported between the two genders. For example, girls have been found to report higher levels of feelings of belonging to the friendship group than boys (Brown et al., 1986; Newman et al., 2007). Moreover, the way that belonging is achieved may also differ between the genders. Osterman (2000) reports that girls seem to have developed ways in which to address their belonging needs which are accepted by society as a whole. For example their social interactions tend to be characterised by cooperation and sharing (Maccoby, 2002). This is supported by many empirical studies which have found that compared to boys, girls tend to report higher levels of closeness, security and help (Bowker, 2004) and greater intimacy with friends (Furman & Buhrmester, 1985; Hussong, 2000). With reference to the ways in which belonging is achieved, girls are engaging in positive interactions with their friends but also by sharing and being cooperative with friends, girls may also be promoting their supportiveness towards group members and promoting their own likeability. This idea is supported by Mathur and Berndt (2006). They found that compared to boys, girls rated more highly socialising with friends as an important aspect of friendship.

The interactions within boys' friendship groups may on the surface appear counterproductive to group belonging (e.g. lower levels of intimacy) and there has been some suggestion that boys in general may have difficulties in achieving a high level of group belonging (Osterman, 2000). However, boys may achieve feelings of belonging in a different way to girls. For example, boys tend to belong to larger friendship groups than girls (Baumeister & Sommer, 1997) and this might be one way in which boys are attempting to fulfil belonging needs as it could be argued that having more social contacts could aid towards the fulfilment of these needs. However, the nature of boys' friendships differs to that of girls'. For example, Hussong (2000) reported that compared with girls, boys reported higher levels of companionship with their friends. Moreover, Camarena, Sarigiani and Petersen (1990) report a positive relationship between sharing experiences with friends and closeness to these friends but only among boys and not girls. Thus, boys may achieve a sense of belonging in a different way to girls. Rather than having high levels of intimacy, boys may achieve a sense of belonging by sharing in activities with friends. By boys engaging in sports with friends or by joking around or playing practical jokes on other members of the group, boys are sharing experiences with their friends.

The literature therefore seems to show that feeling as though one belongs to the friendship group during early adolescence is an important aspect of friendship during this

period. Moreover, girls may have higher levels of belonging than boys and to fulfil their belonging needs through their interactions with their smaller group of friends. Boys however may belong to larger groups in order to try to fulfil their belonging needs and to share experiences with friends.

Since SNS use can potentially offer an additional way in which to fulfil belonging needs, it is important to review the literature on this type of communication. The following section will therefore discuss the prevalence of SNS use within the age group of interest. This will be followed by a discussion on the potential risks and benefits associated with SNS use.

2.2. The role of SNSs

2.2.1. Prevalence of SNS use among early adolescents

SNSs have become an important medium of communication, with their use being the fastest growing online activity for both children and adolescents (Livingstone, Haddon, et al., 2011). For example, in 2008, it was reported that 49% of children between the ages of 8 years and 17 years who used the internet had their own SNS profile (OFCOM, 2008) but more recent data suggest that 67% of youth (age 9 to 16 years) in the UK have one or more SNS profile (Livingstone, et al., 2011). Specifically SNS use among early adolescents has increased exponentially over the last few years. In 2008, it was reported that 27% of 8 to 11 year olds had a profile on one or more SNS (OFCOM, 2008). However, in 2011 it was reported that 43% of 9 to 12 year olds have at least one SNS profile (Livingstone, Olafsson, & Staksrud, 2011). Data which emerged in 2012 reports specifically that 28% of 9-10 year olds and 59% of 11-12 year olds have their own SNS profile. Similarly, more recent evidence from OFCOM suggests that 47% of 10-12 year olds have their own SNS profile on SNSs which require users to be a minimum of 13 years of age (OFCOM, 2011). Livingstone, Haddon, et al. (2011) report that SNS use rises significantly in the transition into secondary school with 20% of 9 year olds and 75% of 13 year olds reporting having at least one SNS. Hence, having a profile on one or more SNS is now being seen as 'the modern rite of passage' (Rosenblum, 2007, p.44).

As with many other western countries, Facebook is the most popular SNS among adolescents in the UK. Livingstone, Olafsson, et al.(2011) report that 58% of 9 to 16 year olds in the UK have a profile on Facebook. Specifically with regard to early adolescents,

Livingstone and colleagues report that 34% of 9 to 12 year olds have a profile on Facebook, even though the site sets a minimum age requirement for its users of 13 years.

The research suggests that the use of SNSs is a popular activity for early adolescents; so much so, that a sizeable proportion of young people are over-riding the age restrictions in order to use these sites. It is therefore important to understand what risks and social benefits are associated with this online activity. Although younger internet users are now engaging in SNS use, the majority of the literature relates to older adolescent use of these sites. Therefore much of the evidence in the following sections is taken from this body of research.

2.2.2. Benefits associated with SNS use

SNSs offer an additional platform for social interactions with others. Undoubtedly, they can therefore offer many benefits to their users. For example Lenhart et al.(2011), report that 69% of adolescents perceive SNS interactions as being mostly kind and 65% reported that they have had a SNS experience which has made them feel good about themselves. The following sections will therefore discuss the main benefits associated with SNS use among adolescents.

2.2.2.1. Contact with friends

The majority of young people use SNSs to contact existing friends (Reich, 2010) and see them as having some level of social value to their lives (Brennan, 2006). The EU Kids Online Project reports that the majority of the SNS contacts of 11 to 16 year olds are people they know offline (Livingstone, Haddon, et al., 2011). It is this contact with friends which is seen to offer many benefits to children and adolescents. For example, young people can stay in contact with friends who have moved away or friends who attend a different school (Clarke, 2009). In respect of school friends, some children have also reported that using SNSs makes them feel as though they are always connected to each other (Markow, 2006), particularly those living in rural areas (Valentine & Holloway, 2002). Moreover, there are reports that the key aim of SNS use among adolescents is to maintain and strengthen offline relationships (Hew & Cheung, 2012; Reich, Subrahmanyam, & Espinoza, 2012). Early adolescents in particular have been reported to use these sites to share intimate thoughts and feelings (Clarke, 2009) which is one characteristic of friendships at this age, particularly in girls (Maccoby, 2002). One study has shown evidence that the online environment might be being used as a rehearsal space to practise these self disclosure skills to enable offline

intimacy to be carried out more efficiently in the future (Valkenburg, Sumter, & Peter, 2011). Thus, SNSs might be one platform offering a place to practise these skills and to maintain friendships. Indeed, some parents see the increased use of SNSs as a new way of children socialising with their friends since children of today are socialised in a very different way (e.g. not being allowed to play outside as often as previous generations; Brennan, 2006).

2.2.2.2. SNS use and development

It has been argued that children and adolescents are going through important developmental processes during their interactions online (Subrahmanyam & Greenfield, 2008). boyd, (2008) asserts that SNSs are another social platform where children and adolescents can learn about social interactions - a vital part of development. For example, she discusses how children learn how to behave and decide how they want others to perceive them through a process of 'impression management'. SNSs are just one place where this impression management and learning to read social cues can occur. boyd argues that the messages and comments left by others (both positive and negative) are a way for children and adolescents to experience this process. In addition, SNSs can also be a place where young people can learn by their mistakes. For example, posting inappropriate content onto their own profile may lead others to leave some sort of feedback (in the way of either a positive or negative comment). It is this feedback which helps the young person to decide whether the continuation of that type of behaviour is how they want others to perceive them. In other words they are using this process as a way of deciding who they want to be.

boyd is not alone in this argument surrounding the use of SNSs and identity development. Throughout the literature, the theme of identity development and SNSs is a recurring one. These sites offer users the ability to construct, modify or completely change their self-presentation (Coyle & Vaughn, 2008; Livingstone, 2008) and it is this flexibility which can offer young people the ability to explore their identity (Livingstone, 2009; Mitchell & Ybarra, 2009). For example, on many sites there is the facility to decorate the profile page, add links to external sites, post pictures and video clips and to update statuses. It is these tools which allow children to experiment with their identity (Livingstone, 2009). In line with Walther's Hyperpersonal Communication Theory (Walther, 1996), the asynchronicity of SNS interactions (and the reduced cues to some extent) may provide a safe environment for identity development to those who are less confident,

enabling them to express themselves in a more confident way. For example, SNSs allow the user time to consider their responses and if they do become embarrassed, it is not visible to others (Valentine & Holloway, 2002). Valentine and Holloway also argue that this type of interaction actually provides a higher level of control to the individual over their identity construction and it has also been reported that young people find construction of identity easier to carry out on SNSs than offline (Greenhow & Robelia, 2009). Another possible reason for this is that it provides a non-adult environment in which to explore identity (Livingstone, 2008). This can allow adolescents to experiment with their identity without the potentially judgmental eyes of adults and in particular, parents.

SNSs are providing adolescents with an additional platform to experiment with the development of their identity. As Ahn, (2011) points out, SNSs are a place where adolescents disclose intimate information about themselves, allowing others to comment on this content. This provides social feedback and is thus an important part of the adolescents' life at a time of significant development. It is therefore important to examine the potential effects of this type of communication with friends. However, due to the paucity of longitudinal studies, these effects may only be associations of SNS use.

2.2.2.3. Positive associations of SNS interactions

Having feedback on the self can be an important predictor of self-esteem and wellbeing (Pujazon-Zazik & Park, 2010) and as children grow older, the influence of peer feedback has a greater effect on self-esteem (Parke & Clarke-Stewart, 2011). In terms of SNS use and self-esteem, it has been reported that positive comments left on SNS profiles can lead to higher levels of self-esteem (Valkenburg, Peter, & Schouten, 2006). However, it should be noted that there is evidence that those who receive negative comments may be at risk of lower self-esteem and so receiving comments on profiles may not be a wholly positive experience for everyone (Valkenburg et al., 2006).

Children and adolescents have reported other benefits of using SNS. For example, these sites offer a space outside school to repair relationships that may have been fractured during the school day. It has been reported that teens have used SNSs to help them to solve problems with friends (Reich, 2010). In addition, in line with the reduced cues offered by these sites, it may be easier for adolescents to repair these relationships on SNSs rather than FTF. The use of these sites has also been reported to help gain access to friends who can be a source of help for such things as homework and emotional support

(Greenhow & Robelia, 2009). This support can be important particularly in times of transition such as the transition to secondary school experienced by early adolescents (Clarke, 2009).

There are very few studies which have tried to examine possible effects of SNS use specifically, particularly with an adolescent sample or younger. However, research into other types of internet communication has revealed positive associations. For example, using instant messaging services to contact friends has been found to be related to increased quality of friendships (e.g. increased intimacy, trust and communication; Blais, Craig, Pepler, & Connolly, 2008). In addition, there is evidence that communicating with friends via the internet results in an increased closeness to these friends (Reich, 2010). In a study with 10-17 year olds, Valkenburg and Peter (2007) also found a positive association between online communication and closeness to friends. In their model, adolescents who perceived online communication to be conducive with discussing a wider breadth of topics and with discussing topics in more depth were more likely to use the online environment to communicate with others. Hence these perceptions of online communication were positively related to online communication which in turn was positively related to closeness to friends. In another study, Valkenburg and Peter (2007b) demonstrated that online communication was positively and indirectly related to wellbeing (defined as satisfaction with life). This relationship was fully mediated by closeness to friends. This indirect effect of online communication on wellbeing was also supported in a further report which found that time spent with friends and friendship quality played a mediating role between Instant Messaging and wellbeing (Valkenburg & Peter, 2007c). Importantly, these studies demonstrated these positive effects of online communication only when this communication was with known others. The latter study in particular demonstrated that this effect did not hold for communication in chat rooms (platforms usually used to interact with others not known in the offline world). These studies show that online communication can have a positive effect on wellbeing through enhancing friendship quality by way of increasing such things as self-disclosure. The online arena then may be an important social tool for adolescents.

2.2.3. Risks associated with SNS use

Although there may be many potential benefits of SNSs, it must also be noted that there are potential risks of interactions with others on these sites. For example, these sites may be used as a platform to cyberbully others using such tactics as personal

intimidation, impersonation, posting images of bullying and making false reports to the service provider. Although this may be a valid concern, only a small percentage of 9 to 13 year old children (1%-3%) report that they have been bullied on a SNS (Livingstone, Olafsson, et al., 2011). However, a recent study has shown that negative peer experiences on SNSs can contribute to higher levels of social anxiety and depression among adolescents irrespective of offline bullying (Landoll, La Greca, & Lai, 2013). Interactions on SNSs may therefore be negative and have serious repercussions for some. Other possible risks involve exposure to inappropriate content such as pornography, drug related content or content which encourages anti-social behaviour. Although it is unlikely that the SNSs themselves would have this content on their sites, users can post links to external sites which may contain such inappropriate content. Exposure to these risks can certainly be harmful to children and cause distress and accessing inappropriate content has been reported to be one of the major concerns of parents and teachers (Spielhofer, 2010).

2.2.3.1. Posting inappropriate content

One of the reasons that SNS use can be a risk to adolescents is the experimental nature of adolescent communication through these sites (Livingstone & Brake, 2010). For example, many adolescents will post information on their profile relating to risky behaviour. Moreno, Parks, and Richardson (2007) report that in their sample of 16 and 17 year olds, 47% of MySpace profiles included references to behaviours such as substance abuse or sexual activity. In addition, it is not unknown for children and adolescents to post pictures of themselves and friends in swimwear (Hinduja & Patchin, 2008). These types of postings can leave the adolescent open to sexual solicitation from an unknown adult. Lenhart and Madden (2007) report that 43% of teens have been contacted by an unknown person on their SNS and Ybarra and Mitchell (2008) report that 4% of their sample experienced some sort of unwanted sexual solicitation with females being more likely to receive this than males. In addition to this, not having adequate privacy settings and posting demographic information (e.g. school) are leaving adolescents easily traceable by undesirable others. For example, it has been reported that demographic information is posted on a high proportion of young people's profiles with 81% of profiles containing the hometown of the individual and 28% containing the school the individual attends (Hinduja & Patchin, 2008). Specifically in the UK, these percentages are smaller among the younger age group. It has been reported that 31% of 9 to 12 year old children have included their school name but only 2% have included their address or phone number (Livingstone, Olafsson, et al., 2011). Moreover, the privacy settings on SNSs might allow people other

than friends to access this personal information. In the UK, the percentage of 9 to 12 year old children who have their SNS profile as 'public' (i.e. anyone can access their profile), is fairly low at 9% (Livingstone, Olafsson, et al., 2011). Although these percentages are fairly low in comparison for those for older children, it is clear that at least some 9 to 12 year old children are putting themselves at increased risk from contact by unknown others.

2.2.4. Summary of SNSs

SNSs have the potential to expose children and adolescents to risks such as cyberbullying and being contacted by unknown others. However, these sites also have the potential to offer many benefits, particularly since these sites are being used primarily by adolescents to contact friends known to them offline. Friends play an important role during early adolescence and SNSs offer further opportunities to interact with these friends. As Livingstone and Brake (2010) state: "what remains constant, driving online and mobile communication is young people's strong desire to connect with peers anywhere, anytime – to stay in touch, express themselves and share experiences" (p. 76). It is this desire to contact friends at anytime which drives the use of SNSs to interact with friends.

Although SNS use among early adolescents has not yet been examined in terms of belonging, there has been some evidence which shows how other forms of technology might have a role to play in feelings of belonging.

2.3. Technology and belonging

Since an increasing amount of interaction is now being experienced with the aid of technology (e.g. emails, gaming, social networking sites), there have been studies which have examined the role of various forms of technology in feelings of ostracism and belonging. Many studies have shown that being excluded from a computerised ball game with others who are not physically present (Cyberball; Williams & Jarvis, 2006) can lead to similar effects as face to face exclusion (Bastian & Haslam, 2010; Boyes & French, 2009; Lau, Moulds, & Richardson, 2009; Stillman et al., 2009; Williams et al., 2002). In a study comparing adolescents and adults, Sebastian, Viding, Williams, and Blakemore (2010) found that exclusion from a Cyberball game resulted in a higher degree of negative effects in adolescents, in particular higher levels of anxiety among early adolescents. Negative effects, including lower levels of belonging, have also been found when participants are

aware they are playing against a computer and when they are aware the computer has been pre-programmed to exclude them (Zadro et al., 2004).

Children and adolescents will inevitably interact with each other at school. However they are also able to interact with each other both inside and outside of school through technology, for example, text messaging, e-mail and social networking sites. These relatively new forms of communication have also been found to be effective in terms of inclusion or exclusion. Feelings of exclusion can emerge when one perceives other group members to be interacting through text messages, even when the individual has no proof that other group members are in fact communicating in this way (Smith & Williams, 2004). In addition, in research with older adolescents and young adults, it has been reported that just owning a mobile phone increases feelings of belonging to the group (Walsh, White, & Young, 2009). Moreover, children who do not own mobile phones may be at risk of social exclusion (Charlton, Panting, & Hannan, 2002).

Although the relationship between SNS use and belonging has not been examined among early adolescents, there is some research with adults which suggests that SNS use may be implicated in the need to belong and feelings of belonging. In a review of literature related to Facebook use among adults, Nadkarni and Hofmann (2012) propose that one key motivation driving Facebook use is the need to belong. The authors suggest that self-esteem is a sociometer which gauges one's fulfilment of belonging needs. In their review they report on studies which have found relationships between self-esteem and Facebook use, studies which demonstrate a relationship between Facebook use and connections with others as well as increases in subjective wellbeing when using Facebook. This review suggests that the *need* to belong drives SNS use rather than its use resulting in feelings of belonging; that is people use Facebook in an attempt to satiate their need to belong. This can be likened to the social compensation hypothesis outlined by Peter et al., (2005) where the use of the internet by introverted individuals to socially interact with others is seen to be driven by an attempt to achieve friendship benefits which are difficult to achieve offline. However, the majority of the studies presented Nadkarni and Hoffman's review are cross sectional in nature and therefore the notion that the need to belong drives SNS use might be contested. There is also evidence to suggest that SNS use might result in increased feelings of belonging. This was addressed in a longitudinal study by Sheldon, Abad and Hinsch, (2011). The authors demonstrated that connectedness to others was the result of Facebook use rather than the cause (they did however report that feelings of disconnection

was a key factor driving Facebook use). These increased feelings of connectedness or relatedness that SNS use might afford have been shown to have an effect on self-esteem (Abellera, Ouano, Conway, Camilotes, & Doctor, 2012). In addition to these increased feelings of connectedness, it has also been demonstrated through experimental methods that increasing the frequency with which one posts status updates on Facebook can reduce loneliness (Deters & Mehl, 2012). Collectively, these studies seem to suggest then that the *need* to belong might be implicated in the reasons for using SNSs but that *feelings* of belonging or connectedness might be one effect resulting from their use.

These findings that technology might have an important role to play in feelings of belonging, might however be influenced by the way parents manage their child's use of such technology. For example, among 9 to 13 year olds, many parents may not allow their child to use SNSs such as Facebook due to the age restrictions or perceptions of potential risks that these sites might pose for their child. In addition, some parents may restrict their child's use of these sites. It is therefore important to review the literature on internet parenting strategies, particularly in terms of their effectiveness.

2.4. Parental mediation of internet use

Children are now living in a multi-media world (Livingstone, 2007) which has its own unique set of risks such as cyberbullying, grooming and invasion of privacy (Hasebrink, Livingstone, Haddon, & Olafsson, 2009). These risks bring new parental concerns. Consequently, recent research has focussed on parenting styles and parental mediation strategies aimed at enhancing children's experiences of contemporary technology whilst minimising potential risks. For example, the EU Kids Online project has reported on a substantial data set from several countries across Europe. Duerager and Livingstone (2012) show that among parents of 9-12 year olds, 96% of parents say their child is not allowed to give out personal information online, 85% report that they do not allow their child to upload content (photos, videos or music) to share with others and 85% of parents say they talk to their child about what they do online. In the same sample, the least used strategies included using a service or contract to limit the amount of time the child is allowed online or to use software aimed at tracking the websites the child visits. These are just examples of a variety of strategies which might be used aimed at keeping children safe online.

2.4.1. Effectiveness of parenting strategies

There has been much support for parents who show a high degree of both control and warmth or who have been categorised as authoritative. For example, children of authoritative parents are less likely to meet an online only friend offline (Rosen et al., 2008) and children of parents who are high in warmth and control strategies are less likely to disclose personal information online (Lwin, Stanaland, & Miyazaki, 2008). With regard to cyberbullying, Mesch (2009) reports that children are less likely to be bullied when limitations are placed on the websites children are allowed to visit and when parents monitor the websites visited. There has been some evidence that enforcing rules about content (a control strategy) as well as having high quality communication (a warmth strategy) between parent and child can reduce the likelihood of compulsive internet use (van den Eijnden, Spijkerman, Vermulst, van Rooij, & Engels, 2010). Duerager and Livingstone, (2012) report that higher levels of restrictive strategies were related to less exposure to online risk and to lower levels of harm. Active use strategies (e.g. talking to child about what they have been doing online) were also found to be related to lower levels of exposure to risk but only to lower levels of harm for 9-12 year olds.

However, warmth and control strategies have not always been found to protect children from risks. Restrictions on time, rules about sharing information online and the location of the home computer have been reported to have no effect on the risk of cyberbullying (Mesch, 2009). Similarly, the enforcement of internet rules has been reported to increase the risk of compulsive internet use (Lee, 2012) and the frequency of communication between parent and child has been found to have no relationship with compulsive internet use (van den Eijnden, et al., 2010). Moreover, Livingstone and Helsper (2008) report that active co-use (a warmth strategy) and using filtering and monitoring software (a control strategy) were ineffective at reducing online risks such as exposure to pornography or violent material, giving out personal information and meeting an online friend offline. However, they do report that interactive restrictions (e.g. child being prohibited to use email, chat rooms or instant messaging services) were beneficial in reducing overall online risks. Duerager and Livingstone, (2012) report that technical strategies (such as using blocking or monitoring software) had no effect on levels of exposure to risk and only had an effect on reported levels of harm for older children (15/16 year olds). Moreover, they also report that active strategies related to safety (e.g. talking to child about what to do if they experience something online which bothers them) were

related to an increase in reported levels of risk and harm. Valcke, De Wever, Van Keer and Schellens (2011) found that although higher control strategies were related to lower risks such as meeting up with someone met online, the control strategies explained very little of the variance in risky behaviour (adjusted $R^2 = .006$). There may also be differences between countries with different child-rearing cultures. For example, Kirwil (2009) reports that placing time limits on children's use of the internet may have different effects. She reports that in individualistic European countries (e.g. Belgium, Denmark, Ireland, the Netherlands, Sweden, and the UK) this strategy is related to an increase in children's experiences of online risk whereas in collectivistic countries (e.g. Bulgaria, Czech Republic, Estonia, Poland, and Portugal) this strategy is related to a decrease in exposure to online risks.

The most recent data to emerge in terms of parental mediation of the internet comes from the EU Kids Online project. The EU Kids Online project has carried out extensive research into parental mediation of the internet across different European countries. Helsper, Kalmus, Hasebrink, Sagvari, and de Haan (2013) report that the UK falls within the 'Restrictive' parenting cluster meaning that most parents are using high levels of restrictive strategies. However, they report that parents in the UK also use moderate levels of active mediation. Countries which fall into this Restrictive cluster are the countries with the highest percentage of children reporting no experience of risk while online. Specifically in the UK, 79% of children reported no experience of risk while using the internet. In terms of the UK then, these higher levels of restrictive strategies seem to be effective at reducing risk.

The strategies and styles that parents use may therefore protect against some risks but in some circumstances they may not be providing the protection parents desire. There may also be important differences between countries and cultures in terms of the effectiveness of strategies in protecting children from risk. Furthermore, it has been suggested that enforcing rules may cause some children to hide information from parents and there is evidence to suggest that children may discuss tactics with each other on how to achieve this (Livingstone & Bober, 2006). Moreover, it is unclear whether parents are using strategies proactively (i.e. to prevent children experiencing risk) or reactively (i.e. in response to children already experiencing some risk and to prevent them experiencing more). Duerager and Livingstone, (2012) speculate that strategies such as restrictive and active use strategies (e.g. those relating to use of the internet) are used proactively; to try to diminish exposure to risk and harm whereas monitoring and active strategies relating to

safety (e.g. suggesting ways to use the internet safely) are used reactively. That is, these latter strategies are used in response to some negative event experienced online. This is suggested in light of their data which shows that higher levels of these strategies are related to more risk and harm rather than less.

The internet undoubtedly has benefits for children and teenagers of today's society (Tynes, 2007) but few studies have examined the effects of the different parenting styles and mediation strategies on these benefits. Warmth strategies have been found to be positively related to using the internet for educational activities and to increase family communication (Lee & Chae, 2007). However, it has been suggested that filtering software (a control strategy) may block important educational websites (Canyaka & Odabasi, 2009) and whilst employing interactive restrictions (such as limiting communication online via emails, chat rooms and instant messaging services) may reduce online risks, it may also restrict the benefits of using the internet to interact with others (Livingstone & Helsper, 2008). Although Helsper et al, (2013) report that higher restrictive strategies seem to help reduce risk, they also demonstrate that this strategy might restrict access to opportunities offered by the internet. They report that the children of the countries within the Restrictive cluster are also less likely to experience the opportunities and benefits of the internet. Helsper et al. show that specifically within the UK, fewer children are experiencing positive aspects such as networking, gaming and exploring the online world. The authors acknowledge that this strategy might not therefore be the most effective in reducing risk while improving access to opportunities such as socialising with friends.

Studies have shown that teenagers use Facebook as a way of maintaining friendships (Sheldon, 2008) and some have reported that parents feel that the internet is important to facilitate contact with friends (Sharples, Graber, Harrison, & Logan, 2009). Using the internet in this way has been found to increase closeness to friends (Valkenburg & Peter, 2007a) and positive feedback received on social networking sites can enhance social self-esteem (Valkenburg et al., 2006). Although there is emerging research which is now examining the effect of parental mediation strategies on exposure to opportunities (e.g. Helsper et al., 2013), there is little research which investigates the effect of control and warmth strategies on the outcomes of utilising the internet in this way (e.g. how parental strategies may affect the potential positive psychological outcomes of using the internet, such as self-esteem). There is clearly a need for this since the internet has the potential to offer benefits in terms of friendship development.

2.4.2. Correlates of internet parenting strategies

There is evidence to suggest that strategies may vary when child and/or parent characteristics are taken into account. Although these factors are not included in the conceptual model¹ presented in this thesis (see **Error! Reference source not found.** at the end of this chapter), they are important aspects to consider.

It has been demonstrated that parents of younger children tend to implement more rules and set more limits compared to parents of older teenagers (Lee, 2012; Livingstone & Helsper, 2008; Wang, Bianchi, & Raley, 2005). This is supported in a study of MySpace use where those teenagers who were found to have parents who adopted a neglectful parenting style (low levels of both control and warmth) were older than those parents adopted an authoritarian or authoritative style (Rosen, Cheever, & Carrier, 2008). In addition, Helsper et al., (2013) report that the children of parents who used higher levels of restrictive (but low levels of active) and children of parents who used high levels of both restrictive and active were younger (aged 11 or 12 years) than those who used low levels of restrictive (aged 14 years). These differences in parenting with the age of the child mirror those seen offline. For example, among early adolescents, parents tend to allow more autonomy and increased independence away from the family home compared to parents of younger children. In terms of online parenting, parents might also acknowledge that with age, their child may be acquiring the skills they need in order to protect themselves from potential harm. However, this linear relationship between parental strategies and age has not always been found. Kirwil, Garmendia, Garitaonandia and Fernandez (2009) report that 11 to 14 year old children had higher restrictions placed on their internet use than younger and older children. It is thought that this however may be related to their increased use of the internet at this age (e.g. using SNSs) but still not having the necessary skills to protect themselves from the potential risks of using the internet in these ways (Livingstone & Bober, 2004). It is therefore possible that within the age of interest in this thesis, parental strategies may increase when the child begins to use SNSs.

Other factors have also been found to be associated with internet parenting styles and mediation strategies, for example, parental internet experience. Wang et al (2005) show that those parents who used the internet were more likely to use filtering and

¹ It was hoped that some of these factors could have been measured in this thesis but due to a small sample size, they were not able to be added to any analyses (see section 3.2 for further information on the issues with sampling).

monitoring software and to check the websites their child had visited compared to parents who did not use the internet. However, this study did not differentiate parental internet use in terms of frequency but just whether the internet was used by the parent or not. The frequency of internet use may provide a more accurate reflection of the relationship between parenting internet experience/use and strategies used. For example, parents with less internet experience or those who consider themselves beginners are more likely to employ lower levels of both control and warmth strategies (Valcke, Bonte, De Wever, & Rots, 2010) and those parents who see themselves as more skilled with the internet and to use the internet frequently are more likely to use all types of mediation (Livingstone & Helsper, 2008). These studies would seem to suggest that the increased skill or experience of the online environment acquired by parents may therefore provide increased skills or confidence in managing children's online experiences. In addition, it may make parents more aware of the potential risks the internet can pose to their child and therefore react by putting in place higher levels of strategies aimed at protecting their child. However, Kirwil et al., (2009) report that there is a lack of clarity on the relationship between parental internet experience and activities that children are allowed to take part in online. From their data (taken from the EU Kids Online Project), they show only small differences in restrictions on child online activities between parents who use the internet regularly and those who do not - those who used the internet daily and those who used the internet rarely or never imposed the lowest level of restrictions (but only slightly).

There is also some suggestion that parenting strategies may change according to changes in the child's use of the internet. For example, Helsper et al., (2013) propose that parents may increase their use of active strategies the more their child becomes experienced in navigating the online world and/or potentially experiences a greater level of risk. This is supported by Kirwil et al., (2009) who found an increase in parenting strategies at an age when greater online activity is expected but is also accompanied by a lack of appropriate skills to navigate this wider use of the internet (see above). However, there is a lack of evidence to support this causal direction. To date, it is unknown whether parental strategies affect the aspects of the internet the child uses or vice versa.

The age of the parent may also play a role in the level of strategies used. For example, Valcke et al, (2010) found that parents between the ages of 45 and 54 years were more likely to use lower levels of both control and warmth than parents between the ages of 25 and 44 years. In addition, older parents are less likely to check which websites their

child has been visiting (Wang et al., 2005). This could potentially be related to the level of exposure to the internet. Younger parents have arguably lived with the internet for a greater proportion of their life and may therefore feel more comfortable parenting their child with this relatively new form of media. In addition to age, the education level of the parent has also been found to be associated with differing levels of strategies. Those who are educated to a higher level have been found to employ higher levels of control and warmth strategies (Valcke et al., 2010), but are less likely to use monitoring software (Wang et al., 2005). Helsper et al., (2013) report that parents who had the highest level of education were most likely to use active strategies when parenting their child whereas those who were educated to a lower level tended to employ very high levels of restrictive strategies.

There has however been mixed findings with regard to some factors which might be associated with internet parenting. For example, holding a positive attitude about the internet has been found to be related to high levels of control (Valcke et al., 2010) but other studies have found that high levels of all parental mediation are related to more concern about online risks (Nikken & Jansz, 2011). This inconsistency is confounded further by research which has found no link between attitudes towards the internet and internet parenting strategies (e.g. Wang et al., 2005). In addition to attitudes towards the internet, the gender of the parent has also received mixed results. Mothers have been found to use higher levels of both control and warmth compared to fathers (Valcke et al., 2010) and to play a more active role in parenting their child while they are online (Kirwil et al., 2009). This is supported by Livingstone (2007) who reports that children view their mothers as more restrictive than their fathers. However, other studies have found no differences between mothers and fathers in terms of rule setting or using monitoring software (Wang et al., 2005).

This body of literature has demonstrated that there may be factors associated with the levels of strategies that parents use when managing their child's online activities. For example, parents with greater internet experience have been found to use higher levels of all types of mediation. It is however important to acknowledge the different ways in which internet parenting is measured.

2.4.3. Measuring internet parenting

Many studies have adopted different ways of measuring the levels of strategies employed by parents. For example, Lee (2012) measured restrictive (or control) strategies by asking participants to indicate how frequently certain strategies were used (e.g. use of time restrictions, prohibition of gaming online, use of filtering software). In measuring levels of control strategies, Wang et al (2005) asked participants to answer either 'yes' or 'no' to three questions (e.g. "Are there rules about when and for how long children can go online in your home?"). There is evidently great variation in the way in which the levels of strategies are measured and thus this makes it difficult to compare results between different studies.

Valcke et al. (2010) have developed a measure of parenting style and strategies specifically related to the internet. This incorporates measurements of supervision, stopping internet usage and internet usage rules (categorised as the 'control' element – 11 items) and communication and support (categorised as the 'warmth' element – 14 items). For each statement, participants are required to indicate how frequently this strategy is used. Consequently, each participant has a score for control and for warmth separately. From this measure, the authors were able to distinguish the four parenting styles, authoritative, authoritarian, neglectful (or laissez-faire) and permissive but also suggested a fifth style of 'mixed' internet parenting style. This latter style categorised parents who scored around the cut off mark for either high or low levels of control and warmth and were therefore not able to be placed firmly into one of the other four categories. This measure allows participants to provide data on the frequency with which a variation of strategies are used. This might therefore reflect reality more effectively than asking participants to respond in a dichotomous way (either 'yes' or 'no') to questions asking if certain strategies are employed.

There is an important methodological aspect to take into account when measuring parental strategies and parenting styles. It has been well documented that parents report far more rules than children (Livingstone & Bober, 2006; Rosen et al., 2008; Wang et al., 2005). Some studies have therefore chosen to collect data from both parents and children (e.g. Livingstone & Helsper, 2008; Wang et al., 2005). Others have collected from parents only (e.g. Eastin et al., 2006; Mesch, 2009) while some studies have collected data from children only (Lee & Chae, 2007; Lwin et al., 2008; van den Eijnden et al., 2010). In addition

to the different measures used, the role of the participant (i.e. parent or child) may therefore go some way in explaining why some studies have found certain strategies to be effective whilst others have found little or no effect.

2.4.4. Perceptions of risks and benefits and their relationship to internet parenting

Parents are often concerned about the risks that the online environment might pose to their children. For example, parents might be concerned about exposure to sexual content or that over use of the internet might replace other activities (Livingstone & Bober, 2006). Parents of younger children have been found to be more concerned than parents of older children and adolescents. For example, in a sample of 10-18 year old children and adolescents, Rosen et al., (2008) found that parents of the younger of their sample were more concerned about how the use of MySpace might affect their own child's school work than parents of the older adolescents. Further evidence has been found surrounding parents' concerns about the use of SNSs. For example, parents have reported concerns about risks such as bullying or children potentially providing too much personal information on their profile (DCSF, 2009). However, there are reports that parents also accept that the internet can offer benefits to children (Livingstone, 2007). For example, parents see the internet as an important tool for education (Sharples et al., 2009) and thus may help children to perform better at school (Livingstone & Bober, 2006). In addition, some parents accept that the internet might be beneficial in terms of keeping in touch with friends (Sharples et al., 2009). Since SNSs are a key tool with which children and adolescents can keep in touch with their friends (boyd & Ellison, 2007; Reich, 2010) these sites inevitably offer these sorts of benefits. In addition, scholars have suggested that SNSs might offer benefits such as asking friends for help with homework or providing an additional platform for identity development (Tynes, 2007).

SNSs are becoming increasingly popular in the age range within this thesis (Livingstone, Olafsson, et al., 2011; Oppenheim, 2008). However, the media are quick to report stories surrounding potential negative aspects of their use. For example, there have been reports of girls becoming addicted to Facebook (BBC News, 2009) and that sites such as Facebook can potentially cause brain damage (Derbyshire, 2009). Parents may therefore have perceptions that these sites are highly risky places for their children. Moreover, research has suggested that parental attitudes towards SNSs is related to the SNS use of the

child (Kupiainen, Suoninen, & Nikunen, 2012). Thus, it is necessary to begin to explore how parents perceive these sites in terms of the risks and benefits they may offer their children.

Parental perceptions or attitudes towards certain media have been found to be related to the levels of strategies used to parent their child when using that particular media. Using control strategies such as restricting the amount of time the child is permitted to watch television or only allowing the child to watch certain television programmes have been found to increase the more the parent perceives the television to have negative effects on their child (van der Voort, Nikken, & van Lil, 1992). Other media research has found that parents who hold a positive attitude towards the media are more likely to use warmth strategies while those who hold concerns about the media tend to enforce restrictions on use (a type of control strategy) while still using some level of warmth strategies (Nikken, Jansz, & Schouwstra, 2007; Nikken & Jansz, 2006; van der Voort et al., 1992).

However, similar patterns have not always been found in research examining internet parenting. For example, holding a positive attitude about the internet has been found to be related to high levels of control (Valcke, Bonte, De Wever, & Rots, 2010) but high levels of all parental mediation has been found to have a relationship with more concern about online risks (Nikken & Jansz, 2011). This inconsistency is confounded further by research which has found no link between attitudes towards the internet and internet parenting strategies (e.g. Wang et al., 2005).

The relationship between perceptions of risks and benefits of SNSs and internet parenting is not clear. Both measures of control and warmth may be influenced to some degree by parental perceptions of these sites. There is therefore a need to examine these relationships more closely to try to ascertain how perceptions of possible risks and benefits are related to parental strategies.

2.4.5. Summary of parenting strategies

The evidence provided here in this review shows that parents employ a wide range of strategies aimed at keeping their children safe online. The degree to which these strategies are used may depend on such things as the age of the child, the level of parental internet experience and parental attitudes to the internet. Although there is some evidence that these strategies may help to protect children from potential risks from internet use,

there is little research examining the effect of these strategies on the opportunities that the internet can offer children and adolescents. Specifically, there is no research examining the effect of these strategies on interactions with friends online and therefore the indirect effect on friendship development. It is therefore important that these areas are considered when examining the effects of internet parenting on children's experiences of the internet, particularly if this platform is shown to be an effective way of developing and maintaining bonds with friends.

2.5. Summary of literature

Several key points emerge from the review presented in this chapter. Firstly, early adolescent friendship groups are important to their subjective wellbeing as well as playing a key role in development. Moreover, the rate of SNS use within this age group is growing exponentially, with these sites mainly being used for interactions with friends. However, there is little research on SNS use among 9 to 13 year olds and no research on the role these sites might play in feelings of belonging among children. Since the internet plays a central role in children's and adolescents' lives, parents employ strategies to mediate their child's use of these sites. Although there is a suggestion that high levels of strategies may restrict online interactions with friends, there has been no research examining their effect on the social uses of the internet among 9 to 13 year olds. However, the research might suggest that high levels of control or restrictive strategies might restrict the use of specific online platforms. The research examining perceptions of online communication and their relationships to internet parenting is sparse. Those studies that have been carried out have not found consistent results, leaving questions about how perceptions might relate to both parenting strategies and SNS use.

2.6. A conceptual model

Given the research discussed in this chapter, there are clearly avenues which are to date left unexplored. Although online communication has been examined in terms of either potential outcomes or how parents might manage this type of internet use, these aspects have not been examined within the context of each other. Moreover, nor have parental perceptions of SNSs been explored in terms of their relationship with internet parenting. In light of the key research question guiding this thesis, the main aim is to test these relationships in the context of one another and to propose a model (see Figure 2). This

model has several hypothesised relationships which will be tested in the subsequent empirical chapters. The hypothesised relationships are as follows:

H1: Parental perceptions of risks of SNSs will be related to levels control strategies

H2: Parental perceptions of risks of SNSs will be related to levels of warmth strategies

H3: Parental perceptions of benefits of SNSs will be related to levels of control

H4: Parental perceptions of benefits of SNSs will be related to levels of warmth

Due to the mixed evidence on the relationships between perceptions of or attitudes towards the internet and parenting strategies, the nature of these relationships (i.e. positive or negative) is not hypothesised for hypotheses 1 through to 4.

Based on the research on attitudes towards different media and the child's use of this media, the following predictions are made:

H5: Parental perceptions of risks will be negatively related to SNS use of the child

H6: Parental perceptions of benefits will be positively related to SNS use of the child

Based on suggestions made in the literature (e.g. Livingstone & Helsper, 2008) between parenting strategies and use of the internet, hypothesis 7 predicts:

H7: Levels of control will be negatively related to SNS use

Due to mixed results in the literature, hypothesis 8 does not predict the nature of the relationship:

H8: Levels of warmth will be related to SNS use

Based on literature on online communication and positive outcomes, hypothesis 9 is as follows:

H9: SNS use will be positively related to feelings of belonging

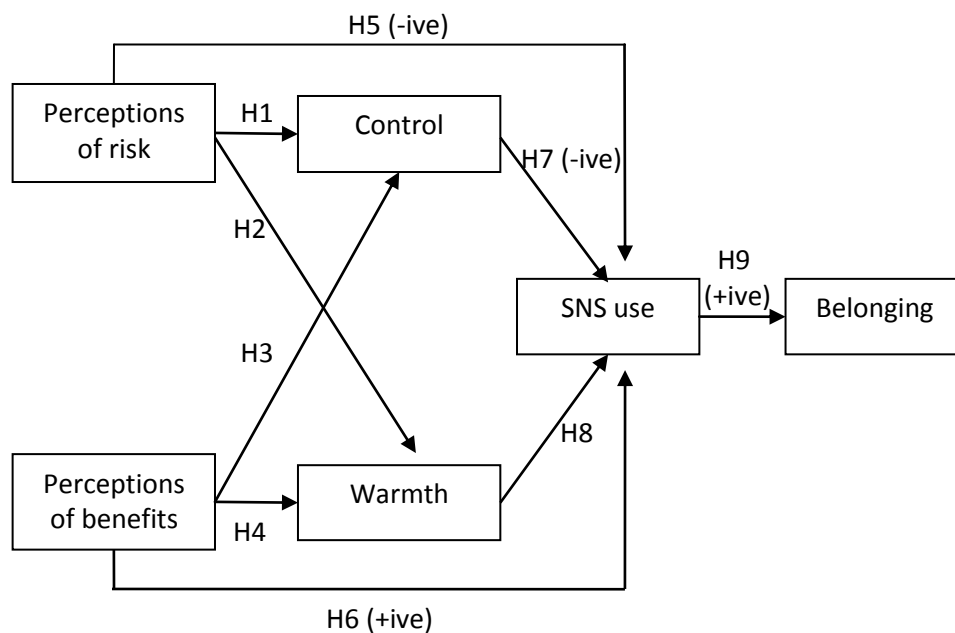


Figure 2 Conceptual model hypothesising relationships between parental perceptions of SNSs (risks and benefits), internet parenting strategies, child use of SNSs and child feelings of belonging.

In short, this model enhances the research that examines links between (i) online communication and belonging or (ii) internet parenting strategies and SNS use. It specifically examines the key research question guiding the work in this thesis: ‘Are internet parenting strategies inadvertently affecting children’s feelings of belonging to the friendship group by restricting or prohibiting access to SNSs?’ The model proposed will address this question and add to the existing theory and research. It provides a bigger overview of how parental perceptions of SNSs, parenting strategies and SNS use may play a role in feelings of belonging among early adolescents within the context of each other.

The following chapter will introduce the studies presented in this thesis. Specifically it will outline the methodology employed in the subsequent studies and also the measures used (since many of the same measures were used in more than one study). It will also provide details of the sampling process and ethical considerations of the studies presented.

Chapter 3. Introduction to the Studies

3.1. Methodology

Quantitative methods were used in this thesis and the data were collected through questionnaires. This method was chosen since it is a useful method with which to explore internet use among children (Lobe et al., 2009) and to gain data quickly and efficiently from a large number of participants (Coolican, 2004). Moreover, this age group are able to understand the questionnaire format and to respond to the questions accurately (de Leeuw, Borgers, & Smits, 2004). The questionnaires were administered mostly to early adolescents (9-13 year olds). It was important to gain the perceptions of the early adolescents within this research area rather than gaining data solely from parents and/or teachers. In this sense, this method provides children with a voice and they become active participants in the research process (Pole, 2007).

The child questionnaires were administered in a classroom environment. The children who completed paper versions of the questionnaires were supervised by the researcher and a research assistant. The children who completed the questionnaires online were supervised by staff from their school and the questionnaires were completed in Technology lessons. That the children completed the questionnaires within a classroom setting has both limitations and benefits. Firstly, parents of the children are not present and so children's responses are less likely to be influenced by parental rules (e.g. a child may be more likely to answer truthfully about their SNS use, particularly if their usage of these sites is breaking a parental rule). However, a classroom environment may not offer the optimum environment for research. It may not provide a quiet space free from distractions and due to the presence of school staff, an imbalance of roles may be created (Tsaliki, Chronaki, Vandoninck, & D'Haenens, 2013). This imbalance may lead children to feel that they must complete the questionnaire (particularly those who are usually obedient and compliant with school rules, Vandoninck & D'Haenens, 2013). This however was attempted to be addressed by explicitly advising participants that they were not obliged to complete the questionnaire (see section 3.3 for these specific instructions). Despite the possible disadvantages of the classroom setting, it was decided that asking children to complete the questionnaire in this environment was the best option available, providing an opportunity to collect data from many participants in a relatively short period of time.

3.2. Sampling

An initial plan of this thesis was to obtain data from both parents and their children over three time points – when the children were in year 6 (final year of primary school, age 10/11 years) and then again when the children were in year 7 (aged 11/12 years) and then in year 8 (aged 12/13 years). However, due to an initially small sample size, children dispersing to a range of secondary schools and the difficulties in gaining access to all these secondary schools, the final sample with data of three time points with parental data included less than 20 participants of children. Therefore it was not possible to carry out a longitudinal study or to carry out any model testing with this small sample. Alternative plans were therefore made.

Data were collected at the following time points from children and parents:

March 2011 – data collected from 35 children (aged 9-11 years) and 32 of their parents (pilot study)

July 2011 – data collected from 408 children (aged 9-13 years) and 93 of their parents

February 2012 – data collected from 220 children (aged 11-12 years) and 95 parents (not related to the child sample). At this stage it was also hoped that further parental information might be collected (e.g. parental education level, internet use and internet confidence). However, few parents answered all these questions (n=35) and so these factors were unable to be included in the model testing. The data collected from the children at this time point provided the data for the first wave of the longitudinal study.

November 2012 - data collected from 239 children (aged 12-13 years). The data collected here provided the second wave of data for the longitudinal study. The data of 31 participants from February 2012 were not collected at this time point (either because they were absent from school that day or they chose not to complete the questionnaire). Data from 50 new participants were collected at this second time point. This left a sample of 189 participants with data from both time points.

The samples in the following chapters were gained from local schools that were willing to participate in the studies. This inevitably resulted in a sampling bias. The sample for all studies in this thesis may not be representative of the UK as a whole. All participants

were from a relatively affluent town in the north of England whose population is composed of over 90% British white residents, its employment rate and average house price is higher than the average found in England and it also has a lower percentage of residents receiving government benefits than the English average (ONS, 2011). The opportunities available to these children in terms of access to SNSs may therefore exceed those available to other children in the UK. For example, it is documented widely that those who are economically disadvantaged may be restricted not only in terms of general internet connection but also in terms of the devices available to them with which to access the internet (e.g. Helsper, 2008; Livingstone & Helsper, 2007). Moreover, there is some evidence that ethnicity may also influence access to online facilities (Dijk & Hacker, 2003). It is therefore acknowledged that the results gained from the samples of the following studies may not be generalisable to the general UK population.

Moreover, using samples from a small number of schools may also bias the sample. For example, school variables (e.g. school ethos, school climate) may influence factors such as feelings of belonging. Although a range of schools were approached and asked to take part in this research, the majority of the secondary school sample in the studies came from one school. Thus, the results may be heavily affected by the characteristics of that school. Ideally, a range of different schools from different areas should be recruited. This would enable multi-level modelling to be carried out to test whether significant relationships found in the conceptual model would hold for each school. This sort of testing would lead to more robust results. Hence, although adequate sample sizes were able to be recruited, it is accepted that sampling biases exist in the studies presented here.

It is also accepted that within the age group of interest (age 9-13 years) that there may be considerable differences in terms of social maturity and the importance of belonging to the peer group. Section 2.1 discussed early adolescence as a period of transition spanning 9-14 years of age. Since this period is a transitional one, there may be great heterogeneity within this age span. A prepubescent 9 year old may lack many social skills in comparison to a socially mature post-pubescent 13 year old. Hence, feelings of belonging may not only be more important to the latter (as discussed in section 2.1.3) but the ways in which these are achieved may be different. For example, the feelings of belonging of a prepubescent 9 year old may depend much more on the family environment and familial contacts with parents or friends whereas the feelings of belonging of a socially mature 13 year old may depend more on relationships with peers, which have been

initiated and developed by themselves. Despite these potential differences, friendships are an important part of any child's development regardless of their age (Newcomb & Bagwell, 1996). Hence, the studies presented in this thesis are concerned with friendship group belonging while accepting that there may be a degree of heterogeneity within the sample in terms of the importance of belonging to this group and the way it is achieved. In addition, age effects were examined where possible and are presented in the following empirical chapters.

3.3. Ethical considerations

For each study carried out in this thesis, ethical approval was gained from the Department of Psychology's ethics board at the University of York (see appendices *i and ii*). Participant consent was obtained when collecting data from parents. For all studies involving children, adult consent was gained for all children who took part in the research. This was either parental consent or in the case of one Secondary school, a Deputy Head's consent (acting as *loco parentis*). The consent of each head teacher was also obtained in order to gain consent to visit some schools and for them to consent to children completing the questionnaires whilst under their care (see appendices *iii, iv and v* for consent forms). As well as this, each child was informed that they did not have to answer any or all of the questions on the questionnaire if they did not wish to do so. Specifically, the following was read to all children prior to completion of the questionnaire:

'The questionnaire will ask you about your friends, the social networking sites you may use and about the rules your parents have when you are using the internet. You do not have to complete this questionnaire but we would be very grateful if you would. If there are any questions which you do not want to answer, just leave them blank. We are interested in your experiences and views. There are no correct answers to these questions – you just need to write down how you feel or what you do. Your completed questionnaires will not be shown to your parents, your teachers or your friends so please answer truthfully. If you have any questions, please put your hand up and I will help you.'

In order to leave children and parents informed of websites they could visit and/or people they could talk to, a list of organisations were provided on the last page of the questionnaires (see appendices *v and vi*). In addition, children were reminded that if

something was bothering them with their friends or their use of the internet, they could talk to their parents and/or teachers. Participants who completed the questionnaire in the paper format were encouraged to remove the last page for their retention. For those who completed the online questionnaire, they were encouraged to write down the details contained on the last screen.

3.4. Measures

Since most of the same measures were used throughout the studies, for reasons of parsimony, they are detailed here (see appendices *v* and *vi* for both parent and child questionnaires). Some of the measures were tested in a pilot study. One primary school was invited to take part in this pilot study. The sample consisted of 35 children (45.71% boys and 54.29% girls) ranging from age 9 years to age 11 years (mean age = 10.20, *SD* = 0.68), 12 children from year 5 (34.28%) and 23 children from year 6 (65.72%). The parent sample consisted of one father and 31 mothers. Three parents of children in year 6 did not complete the questionnaire. Some of the measures were tested in this pilot study. In terms of the child's version of the questionnaire, all measures were piloted with the exception of the Sociability and Shyness scale and the Face to Face (FTF) contact measure. The reason for this was that these were not added to the questionnaire until a later date (the FTF contact measure was added at the first data collection after the pilot study and the Sociability and Shyness were added in the 2012 data collection). In terms of the parent's version of the questionnaire, all measures were tested in the pilot stage. The reliability alpha values from the pilot study are reported in the following sections. The reliability statistics of each measure used within each study are reported in the relevant chapters. Descriptive statistics for each item of each measure within each study are presented in the appendices (see appendices *viii* and *ix*).

3.4.1. Belonging

Children were asked to think about the group of friends they spent most of their time with at school and to report how many children were in this group. Children were asked to think about this group while completing a belonging measure developed through adapting questions from Anderson-Butcher and Conroy (2002) and Leary, Kelly, Cottrell, and Schreindorfer (2007). Anderson-Butcher and Conroy examined feelings of belonging to an after school youth development programme. Since some of these measures were specific to the programme, they were either unable to be used (e.g. 'I am committed to the

programme') or needed rewording (e.g. 'I am accepted at the programme' became 'I feel the rest of my friendship group accept me'). The measure by Leary et al aims to examine the need to belong rather than feelings of belonging. Again, certain questions could not be used (e.g. 'I try hard not to do things that will make other people avoid or reject me') and others needed rewording to be used in the present scale (e.g. 'It bothers me a great deal when I am not included in other people's plans' became 'When the rest of my friendship group make plans I feel included'). The measure for the following studies therefore consisted of the following 10 items:

(i) *'I feel that the rest of my friendship group accept me';*

(ii) *'I feel that the rest of my friendship group care about me';*

(iii) *'I feel wanted by the rest of my friendship group';*

(iv) *'When the rest of my friendship group make plans, I feel included';*

(v) *'I feel that the rest of my friendship group don't want to spend time with me'* (reverse scored);

(vi) *'I feel I can talk to the rest of my friendship group if something is bothering me';*

(vii) *'I feel comfortable with the rest of my friendship group';*

(viii) *'I feel rejected by the rest of my friendship group'* (reverse scored);

(ix) *'I feel part of my friendship group';*

(x) *'I feel an important member of my friendship group'.*

Possible answers ranged from 'Not at all true' (scored 1) to 'Really true' (scored 5). This scale was tested in the Pilot Study phase. All items correlated with the total scale to a good degree (lowest $r = .54$) and Cronbach's α was .92. Since this was a new measure, it was also subjected to a test-retest procedure with a group of 35 children aged 9 – 11 years (mean age = 10.20, $SD = 0.68$). This procedure provided a three month interval between time 1 and time 2. Results were significantly correlated between these two time points ($r =$

.46, $p < .001$). This measure was therefore considered a reliable scale with which to measure belonging in children within the current age bracket.

3.4.2. SNS use

A list of ten SNSs plus an eleventh option of 'other' was presented to each participant. They were asked to indicate which sites (if any) they used to contact their friends from their main friendship group from school. The sites provided in this list were Facebook, Beebo, MySpace, Twitter, Club Penguin, Stardoll, Moshi Monsters, Habbo, Neopets and Poptropica. Facebook is the most popular site in the UK among all youth (Livingstone, Olafsson, et al., 2011). The other sites have been reported to be among the most popular SNSs among children in the UK (Lambert, 2009; Livingstone, Olafsson, et al., 2011). Participants were categorised as SNS users or non-users based on their response to this question. This question was also provided on the parents' version of the questionnaire but asked parents which of the sites listed their child had a profile on. For the parental questionnaire, a further option of 'I don't know' was included.

Those children who reported not using SNSs were also asked to respond to an open ended question: '*If you do not use these sites, please tell us why*'. This question was used to gauge whether or not children were not using SNSs through their own choice or because of parental restrictions. Some of the responses from this question are provided at the beginning of some of the subsequent chapters. In addition, parents were also asked to respond to the question '*If your child does not use these sites, please tell us why*'.

3.4.3. SNS intensity

In order to achieve a SNS usage intensity score, those who used SNSs were asked three questions:

(i) '*How long have you been using social networking sites to contact your friends in your group?*' possible responses ranged from '*Less than 1 month*' (scored as 1), to '*More than 2 years*' (scored as 5);

(ii) '*How often do you use a social networking site to contact your friends in your group?*' possible responses ranged from '*Never*' (scored as 1) to '*every day or almost every day*' (scored as 6);

(iii) Children were asked to indicate from a list of nine locations where they accessed their SNS to contact their friends; the total number of locations was taken as a score. These locations were

- My own PC or laptop at home in my bedroom
- PC or laptop at a friend's house
- PC or laptop at a relative's house
- PC or laptop in school
- Family PC or laptop at home
- PC or laptop at a public library
- PC at an internet café
- Mobile device (e.g. mobile phone, iPod)
- Other

Answers from each of these three questions were standardised and the mean score achieved. The reliability analysis carried out in the pilot study revealed a less than satisfactory Cronbach's alpha ($\alpha = .51$). Therefore, three more questions were added at Study 1 stage. These were:

(iv) *'How many days in the last 7 days have you been on a social networking site to contact friends from your friendship group?'* (Open-end response);

(v) *'On the last day that you were on one of your social networking sites, how many times did you contact your friends?'* (Open-end response);

(vi) *'On the last day that you were on one of your social networking sites, how long did you spend making contact with your friends? (for example, chatting, sharing photos, commenting on your friends' photos)'* possible responses ranged from *'about 15 minutes'* (scored as 1) to *'3 hours or more'* (scored as 7).

These questions were adapted from Valkenburg and Peter (2007). The SNS usage intensity score was calculated by standardising the responses for each of the six questions listed above. Reliability analyses carried out in Study 2 revealed that all items correlated well with the item total (lowest $r = .40$) with a satisfactory Cronbach's alpha ($\alpha = .74$).

SNS intensity was not included in the parent's version of the questionnaire since it was thought that parents may not be able to provide an accurate answer about the frequency with which their child visits these sites. For example, parents whose children access their SNS via a mobile device may considerably underestimate the amount of times their child logs onto their site. Although comparing parent and child reports of SNS intensity would be an interesting area to examine, the parent sample in this thesis were not all parents of the children sample in this thesis. Therefore, it was not possible to make direct comparisons.

3.4.4. SNS frequency

This measure was used solely for Study 3 which examined the role of mobile devices. The measure of SNS intensity could not be used in this study since the categorisation of a participant as a mobile device user or non mobile device user was attained from the responses to the question asking participants to report where they accessed their SNS. Therefore, three questions from the SNS intensity measure were used to gauge the frequency of use of SNSs. These three questions were:

(i) *How often do you use a social networking site to contact your friends in your group?*

(ii) *'How many days in the last 7 days have you been on a social networking site to contact friends from your friendship group?'*

(iii) *'On the last day that you were on one of your social networking sites, how long did you spend making contact with your friends?'*

The possible responses were identical to those set out in the section 3.2.3 (SNS intensity). The responses to each question were standardised and a mean 'frequency of use' score calculated for each participant.

3.4.5. Face to face contact

This measure was used in Study 3 only (Chapter 6). Participants were provided with a list of six activities:

- Some sort of club outside school (for example, Guides, football, swimming)
- Sleepovers

- Spending time at each other's houses after school
- Spending time at each other's houses during the day in school holidays
- Shopping
- Go to park or playing field

A seventh option of 'other' was also included. Each participant was asked to indicate how frequently they did these activities with one or more friends from their friendship group. Possible responses ranged from 'Never' (scored as 1) to 'every day or almost every day' (scored as 6). A mean score was calculated for each participant.

3.4.6. Sociability and Shyness

For the longitudinal study (Chapter 4), measures of shyness and sociability were added to the children's questionnaire. The EAS Temperament Survey for children (Buss & Plomin, 1984) was used which provides five statements aimed at measuring sociability and five aimed at measuring shyness (see Table 1 for each statement). This particular measure of shyness and sociability was chosen due to its length. Completion of the early adolescents' questionnaire prior to these additions took around 20 to 30 minutes to complete. It was therefore thought that adding a measure with many items would affect the concentration levels of participants and thus affect the quality of the data. The original measure is designed for parents to complete so the questions were re-phrased to make them suitable to be answered by participants about themselves. Answers were on a five point Likert scale ranging from 'Not at all true' (scored as 1) to 'Very true' (scored as 5). Individual Cronbach alpha values are reported in Chapter 4.

Table 1

Items in the sociability and shyness measures

Sociability	Shyness
I like to be with people	I tend to be shy
I like to play with others or spend time with others rather than be alone	I make friends easily(reverse scored)
I find people more exciting than anything else	I am very sociable (reverse scored)
I am a bit of a loner (reverse scored)	I take a long time to warm to strangers

I feel cut off or disconnected from others when I am alone	I am very friendly towards people I have not met before
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3.4.7. Internet Parenting Strategies

The measure provided by Valcke, Bonte, De Wever and Rots (2010) was used but adapted in the early adolescents' questionnaire to make it suitable for the current age group (the original measure was designed for parents). This measure was chosen due to its ability to categorise parents into 'Authoritarian', 'Authoritative', 'Neglectful' and 'Permissive'. An initial aim of the thesis was to compare the number of parents in each category whose child used SNSs (or not) and to what extent. However, this categorisation led to unequal group sizes with the majority of parents falling into the Authoritative category. It was therefore decided to examine the control and warmth elements separately as continuous variables. It is accepted however that other measures of parenting may have been more appropriate had the initial aim not had been to categorise parents (e.g. Active Co-use, Technical Restrictions, Interaction Restrictions and Monitoring, see Livingstone and Helsper, 2008).

Both parents and early adolescents completed this measure. The original measure consisted of 25 statements relating to control strategies (11 statements) and warmth strategies (14 statements). The control measure was further sub-divided into (i) supervision, (ii) stopping internet use and (iii) internet usage rules. The warmth measure was subdivided into two parts: (i) communication and (ii) support. After a review of the literature on internet parenting strategies, an additional question was added to the internet usage rules of the control strategies list: *'My parents/carers only allow me to go on the internet in certain places (e.g. I am not allowed on the internet in my bedroom)'* / *'I limit the places where my child can access the internet (e.g. not in their bedroom)'*. The statements for the control measure and warmth measure are listed in Table 2 and Table 3. Participants were asked to respond to this 26 item measure by indicating on a Likert scale how frequently each strategy was used. Possible responses ranged from *'never'* (scored as 1) to *'all of the time'* (scored as 5). A mean control score and a mean warmth score was calculated for each participant. In the pilot study with the children, reliability analyses revealed a Cronbach's α of .79 for the parental control measure and .89 for the parental warmth measure. For parents in the pilot study, the reliability alphas were .68 and .87 respectively for control and warmth.

Table 2

Statements from the parental control measure

Order of presentation	Parent version	Child version
Supervision		
1	I am around when my child is on the internet	My parents/carers are around when I am on the internet
24	I watch when my child surfs on the internet	My parents/carers watch me when I am on the internet
26	After my child has used the internet, I check the websites they have visited	After I have used the internet, my parents/carers check the websites I have been on
15	I use special software to block certain internet sites for my child	My parents/carers use special software to block some internet sites
Stopping internet usage		
19	I stop my child when he/she visits a less suitable website	My parents/carers stop me when I visit a site that they think is unsuitable
21	I stop my child when I see he/she is chatting	My parents/carers stop me when they see I am chatting with people online
Internet usage rules		
6	I only allow my child to surf the internet at specific days and times (e.g. only Wednesday afternoon)	I am only allowed to go on the internet on certain days and at certain times (e.g. only Wednesday afternoon)
14	I limit the time my child is allowed on the internet (e.g. only one hour per day)	I am only allowed on the internet for a certain amount of time (e.g. one hour a day)
4	I limit what my child is allowed to do on the internet (e.g. no chatting allowed)	My parents/carers only allow me to do certain things on the internet (e.g. I am not allowed to chat)
17	I limit the type of websites my child is allowed to visit	My parents/carers only allow me to visit certain websites
9	I ensure that my child can only contact people via the internet they already know personally	My parents/carers say I'm only allowed to contact people on the internet who I already know

Table 2 (continued)
 Statements from the parental control measure

Order of presentation	Parent version	Child version
25	I limit the places where my child can access the internet (e.g. not in their bedroom)	My parents/carers only allow me to go on the internet in certain places (e.g. I am not allowed on the internet in my bedroom)

Table 3

Statements from the parental warmth measure

Order of presentation	Parent version	Child version
Communication		
23	I define internet rules together with my child	My parents/carers make rules about the internet together with me
13	I explain internet rules together with my child	My parents/carers explain the internet rules together with me
10	I discuss with my child about what he/she has found or will find on the internet	My parents/carers talk to me about things I have found on the internet or things I might find on the internet
16	I talk to my child about what he/she does on the internet	My parents/carers talk to me about the things I do on the internet
22	I talk to my child about whom he/she meets via the internet	My parents/carers talk to me about people I meet on the internet
18	I talk to my child about the rich possibilities of the internet (looking up information, playing games, contacting friends)	My parents/carers talk to me about the good things the internet can be used for (e.g. finding information, playing games, contacting friends)

Table 3 (continued)
Statements from the parental warmth measure

Order of presentation	Parent version	Child version
8	I talk with my child about the dangers related to the internet (e.g. computer viruses, cyberbullying)	My parents/carers talk to me about the dangers of the internet (e.g. computer viruses, cyberbullying)
3	I listen to what my child tells me about what he/she did on the internet	My parents/carers listen to me when I talk to them about what I have done on the internet
12	My child asks me questions when he/she encounters technical problems when surfing the internet	I ask my parents/carers for help if I have technical problems with the internet
7	My child asks me questions when he/she is surprised or shocked about things he/she has seen on the internet	I ask my parents/carers questions if I am surprised or shocked about anything I have seen on the internet
5	My child asks me questions when he/she doesn't understand things on the internet (difficult words, foreign language)	I ask my parents/carers if I don't understand anything on the internet (e.g. difficult words, foreign language)
Support		
20	I sit together with my child at the computer to surf the internet	My parents/carers sit with me at the computer while I am on the internet
11	I show my child how to surf safely on the internet	My parents/carers show me how to surf the internet safely
2	I show my child 'child friendly' websites (e.g. library, songs, crafts)	My parents/carers show me websites which are child friendly (e.g. library, songs, crafts)

3.4.8. Perceptions of SNSs

After searching the literature, no specific measure was found aimed at measuring parental perceptions of SNSs. Therefore, a scale was developed through suggestions from previous research with parents and/or suggestions from scholars working in the field of the social aspects of the internet.

3.4.8.1. Perceptions of possible risks

Parents were provided with a list of possible risks of SNSs. This list was compiled from results from various focus groups with parents conducted by the Department for Children, Schools and Families (DCSF, 2009). The risks were as follows:

- Being bullied or harassed
- Communicating with adults not known to them or their families
- Being exposed to inappropriate or offensive adult content (e.g. pornography)
- Being exposed to inappropriate material relating to drugs
- Being exposed to material which encourages anti-social or extremist behaviour
- Providing too much personal information
- Meeting up with someone offline who they have made friends with online
- Being threatened
- Missing out on face to face interactions
- Affecting physical health by spending too much time on social networking sites
- Becoming addicted to using social networking sites
- Spending less time on homework
- Become involved in bullying others
- Spending less time with family

Parents were asked to respond on a Likert scale (ranging from 'no risk' scored as 1, to 'very high risk' scored as 5), to indicate how much they thought each of these were a risk to children in general from using SNSs. The pilot study revealed that each of the risk statements correlated highly with the total scale (lowest $r = .56$) and the measure as a whole revealed a Cronbach's α of .93.

3.4.8.2. Perceptions of possible benefits

As with the list of risks, parents were asked to respond to a list of possible benefits in the same way. This list of benefits was compiled with suggestions from Livingstone and Brake (2010) and Tynes (2007). The possible benefits were:

- Keeping in contact with friends and family
- Helps to widen their circle of friends
- Helps to develop technological skills
- Children can say things they would find uncomfortable saying face to face

- Share advice with friends
- Can help to support friends
- Helps to develop communication skills
- Helps to develop perspective taking skills
- Helps to develop social skills
- Can learn about other cultures
- Helps to develop decision making skills
- Can learn about wider society
- Helps to develop a sense of who they are
- They can ask other children for help with homework
- Helps to develop critical thinking skills
- Become closer to friends

The pilot study revealed that each of the benefit statements correlated to a good degree with the total scale (lowest $r = .44$) and also revealed a Cronbach's α of .97.

3.5. The study chapters

The following studies aim to test the conceptual model presented in section 2.6. The first study uses a longitudinal study to examine child reported variables (SNS use, feelings of belonging and parenting levels of control and warmth). Within this study, the longitudinal data were used to also test the rich-get-richer hypothesis and the social compensation hypothesis (to be discussed in the next chapter). The subsequent two studies examined the relationships between parenting strategies, SNS use and belonging in more depth considering further factors such as gender, age, intensity of usage of SNSs and the use of mobile devices to access SNSs. The final study examined the first part of the conceptual model. That is, from the view of parents, the relationships between perceptions of SNSs (risks and benefits), levels of control and warmth and SNS use of the child will be investigated.

Chapter 4. Testing the Conceptual Model and Addressing the Rich-Get-Richer and Social Compensation Hypotheses: A child perspective (Study 1)

4.1. Introduction

Chapter 2 outlined the key model for this thesis, incorporating parental perceptions of risks and benefits, internet parenting strategies, SNS use and belonging. The present chapter examines this model using a longitudinal study that collected data from children at two time points. Specifically, this study had three aims. The first aim was to test part of the core model from the perspective of the child (see Figure 3). Since the data were collected from children and not parents, the perceptions of risks and benefits of SNSs are not included in this chapter (but see Chapter 7 for parental data). Hence, this chapter addresses hypotheses 7, 8 and 9.

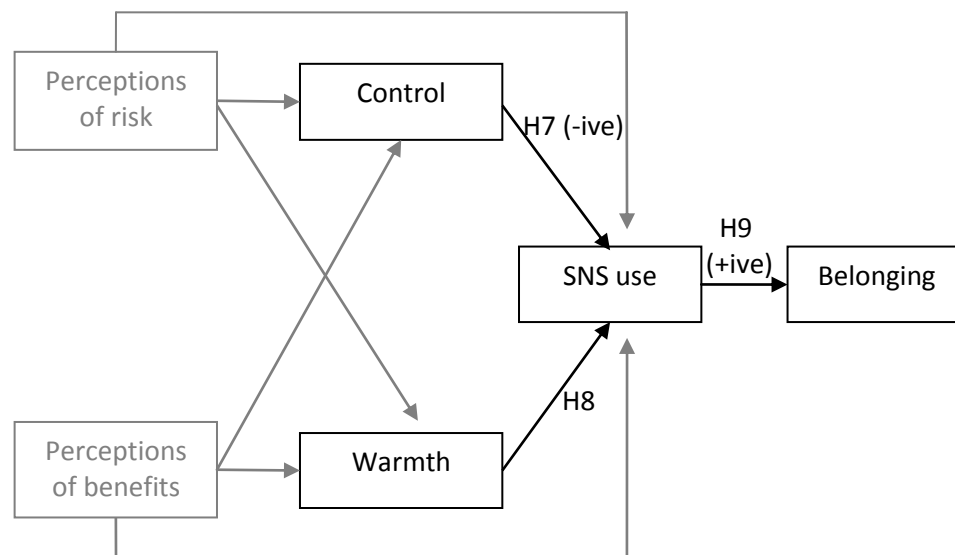


Figure 3 Figure showing the section of the conceptual model to be tested in the present chapter. The pathways shown by a solid black line are tested in the present study.

The second aim was to test the rich-get-richer hypothesis (discussion to follow). The first two aims of this study were approached using Structural Equation Modelling (SEM). The final aim of this study was to test the social compensation hypothesis (discussion to follow).

4.1.1. The core model

Due to a restricted sample size limiting the degrees of freedom, the core model needed to be partitioned into two models in order to be tested. Firstly (as shown in Figure 4) the relationships between Control, SNS use and belonging were tested while controlling for age and gender at T1. Secondly, (as shown in Figure 5), the relationships between Warmth, SNS use and belonging were tested while controlling for age and gender at T1. A longitudinal design was used in an attempt to investigate hypothesised causal pathways between the variables within these models.

In both these hypothesised models, the parenting strategy (either Control or Warmth) has a direct relationship with SNS use both within time points (paths 1a and 1b) and between time points (path 1c). These hypothesised pathways address hypotheses 7 and 8. As proposed by the conceptual model, control was hypothesised to be negatively related to SNS use (hypothesis 7) while no direction of relationship was hypothesised between warmth and SNS use (hypothesis 8). SNS use was hypothesised to have a positive direct relationship with belonging both within time points (paths 2a and 2b) and between the two time points (path 2c; hypothesis 9).

One key point made in Chapter 2 in terms of the relationship between parenting strategies and internet use is that there is little evidence surrounding the causal relationships between these two factors (i.e. whether parenting strategies influence internet use or vice versa). However, there is a suggestion that once children begin to use more of the internet (in particular platforms which offer contact with others), parental strategies may increase (Kirwil et al., 2009). The current study enabled the causal relationship between parental mediation and SNS use to be tested. Hence, as well as paths 1a, 1b and 1c described above, SNS use T1 was also hypothesised to have a direct relationship with the parenting strategy (either Control or Warmth) at T2 (path 3). Due to the lack of research supporting the direction of the relationship between these factors, no directional hypothesis was made.

Another point made in Chapter 2 is that there is some suggestion that people will be more likely to revisit situations which have fulfilled belonging needs (Baumeister & Leary, 1995), thus creating a cyclical process between platforms which have facilitated feelings of belonging and actual feelings of belonging. Therefore, belonging T1 is hypothesised to have a direct positive relationship with SNS use T2 (path 4).

Lastly, each variable has direct positive paths between T1 and T2 (paths 5, 6 and 7). In order to control for age and gender (T1), there are direct paths from age (T1) and gender to all T1 variables (Control/Warmth, SNS use and Belonging).

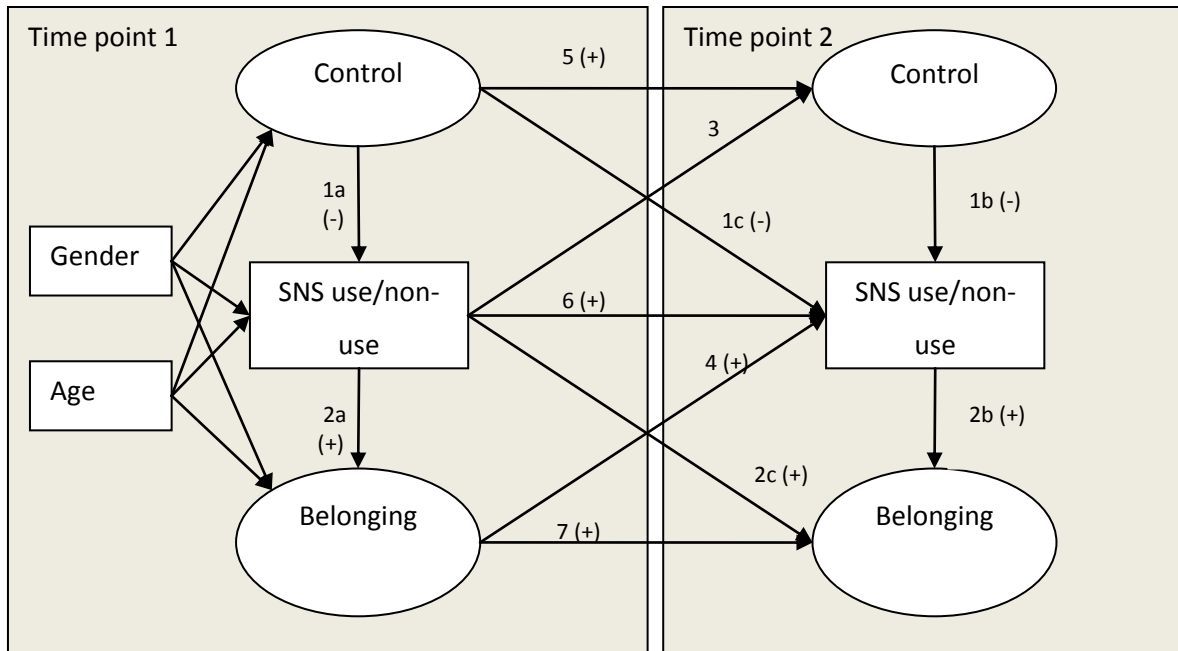


Figure 4 Hypothesised model of relationships between parental control, SNS use and feelings of belonging across T1 and T2. The names of the paths refer to the hypothesised relationships between each of the variables within this model.

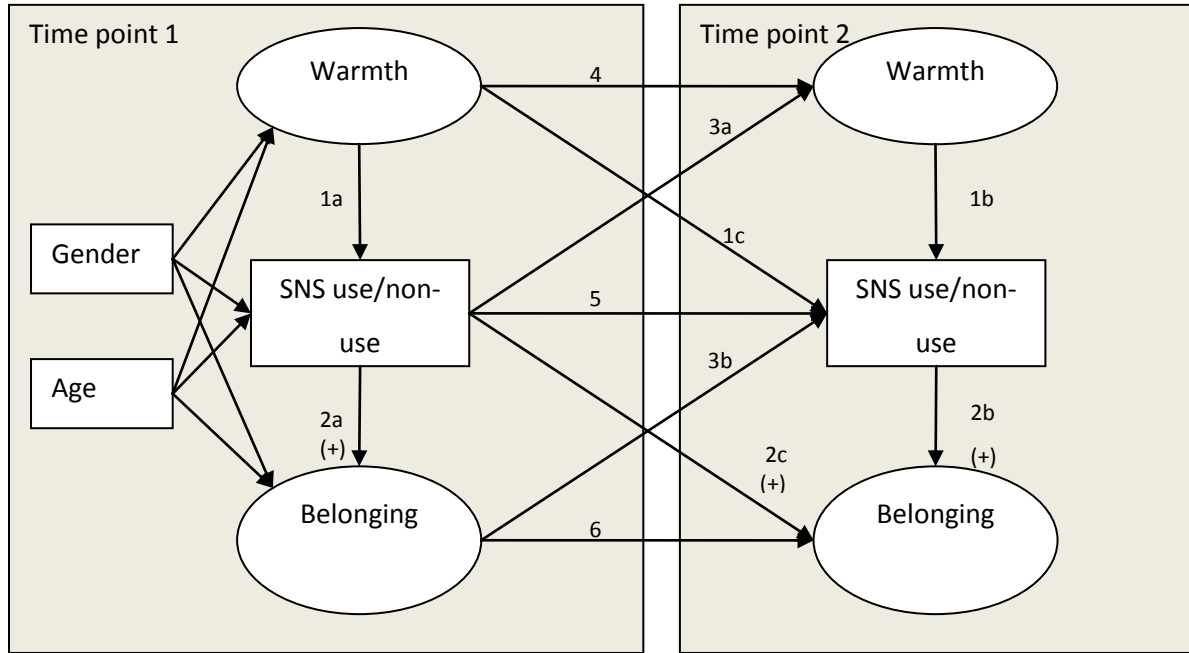


Figure 5 Hypothesised model of relationships between parental warmth, SNS use and feelings of belonging across T1 and T2. The names of the paths refer to the hypothesised relationships between each of the variables within this model.

4.1.2. The rich-get-richer hypothesis

The Matthew Effect refers to the phenomena that those who are already 'rich' will become 'richer'. The use of the Matthew Effect in research relating to social relationships has a sociological background, hypothesising that those who already have many friendships or larger networks of social support will, in other situations add to this already plentiful supply of friends or support network. These types of people (the socially 'rich') therefore tend to be rich in friendships and are able to become 'richer' by way of their personal characteristics (e.g. being highly extravert or sociable). This effect is therefore often referred to in the literature as the 'rich-get-richer' hypothesis. The second aim of this study was to test whether the rich-get-richer hypothesis could explain the relationship between SNS use and belonging.

In terms of the research in relation to online communication, there is some evidence in the literature that those who are already 'rich' will be more likely to use the

online environment as a way of extending their already sociable offline life. For example, Amichai-Hamburger, Kaplan and Dorpatcheon (2008) found that extroverts were more likely to use the social aspects of the internet when they used an online social platform to communicate with known others. In another study Amichai-Hamburger and Vinitzky (2010) demonstrated that among Facebook users, those who were high in extroversion were more likely to have a greater number of Facebook friends. This was supported by Zywica and Danowski (2008) who report that people who were popular in their offline world tended to have more Facebook friends. Zhao (2006) compared those who used the internet for social purposes, those who used the internet for non-social purposes and those who did not use the internet at all. He found that those who used the internet for social purposes reported a greater number of friends than the other two groups of participants. These studies demonstrate the evidence to support the notion that those who are already 'rich' in social ties will become 'richer' by using the social aspects of the internet – that is, the socially rich are more likely to use sites such as SNSs. This effect might be explained by individual characteristics such as extroversion or sociability. However, since these studies are cross-sectional in nature, it is difficult to determine the causal relationships between sociability/extraversion and CMC.

Sociability has been referred to as “the tendency to prefer the presence of others to being alone” (Buss & Plomin, 1984, p.63). Buss and Plomin propose that there are five rewards provided by social interaction – the presence of others, sharing activities with others, attention from others, responsivity from others and initiation of social interactions. Traditionally, the situations where these rewards have been provided have involved face to face interaction. However, with people’s social lives being extended more and more to the online world, SNSs can be seen as one platform where these rewards of social interaction are available. For example, having a profile on a SNS allows an individual to be in the presence of others (albeit virtually), to receive attention from others (e.g. comments received on photos, wall postings) and to initiate social interaction (e.g. by messaging someone). It has been proposed that highly sociable individuals will be more likely to seek out situations where they can achieve these rewards from interactions with others – particularly responsivity (Buss & Plomin, 1984).

Sociability has also been discussed within the context of social capital. As discussed in section 1.3.1.2, social capital refers to the resources provided by one’s networks of social relationships. Given the description of sociability above, it would seem reasonable that

more sociable individuals are more likely to have a greater degree of social capital. In fact, Woolcock (1998) discusses several concepts that may be synonymous with social capital, naming sociability as one of them. Morrow (1999) also discusses how the original concept of social capital encompasses one's sociability since to maintain a successful network of support, one must have adequate social skills and to seek out situations where one can interact with others. In section 1.3.1.2 it was also outlined that there may be a cyclical process between social capital and belonging. Since it is also argued that sociability may be synonymous with, if not, very closely linked to social capital then sociability and belonging are likely to be related on some level. Hence, as discussed above, if more sociable individuals are more likely to use SNSs, these individuals might also be more likely to have a greater degree of social capital and thus have higher levels of belonging. However, as discussed in Chapter 1, the causal paths between these variables may be difficult to disentangle since one has an effect on the other, providing a cyclical relationship between the two.

The research discussed thus far in relation to the rich-get-richer suggests that those who already have many friends or large social networks use the online world to increase the number of friends/size of network they have. That this group of people are more likely to use the social platforms offered by the internet and already have a large network of social support, providing interactions with many friends, it is possible to suggest that levels of sociability can explain the hypothesised relationship between SNS use and belonging. However, there is one point to consider with the studies discussed thus far. Although these studies show that sociable individuals are more likely to use the communicative characteristics of the internet to extend their already sociable worlds, they do not conclusively show evidence of causality. There is no direct evidence that it is people's sociability which drives online communication. Moreover, younger users of SNSs do not always have free choice to use these sites and may be restricted by parental rules. Thus their use may be directed more by parental rules rather than personal characteristics.

The third model of the present study therefore aimed to test whether the rich-get-richer hypothesis could help explain the hypothesised relationship between SNS use and belonging. That is, that those high in sociability are more likely to use SNSs to contact their friends (since it offers them another way for social interaction) and to have higher levels of belonging (since they have a greater amount of interactions with others and potentially have a greater degree of social capital). In this model, SNS use plays a mediating role

between sociability and belonging (see Figure 6). Thus this model tested the hypothesis that within each time point, sociability had a positive relationship with SNS use (paths 1a and 1b) which in turn had a positive relationship with feelings of belonging (paths 2a and 2b). There was also a hypothesised path testing the direct positive relationship between sociability and belonging within each time point (paths 3a and 3b). Since this model was testing the hypothesis that sociability drives SNS use, one would expect to find a positive relationship between sociability T1 and SNS use T2. This is represented as path 4a in Figure 8. It was also hypothesised that there would be a positive relationship between sociability T1 and belonging T2 (path 4b). Moreover for each measure, it was hypothesised that there would be a direct positive relationship between the two time points (paths 5, 6 and 7). Gender and age (at T1) were also added to the model with each predicted to have an relationship with sociability, SNS use/non-use and belonging at T1.

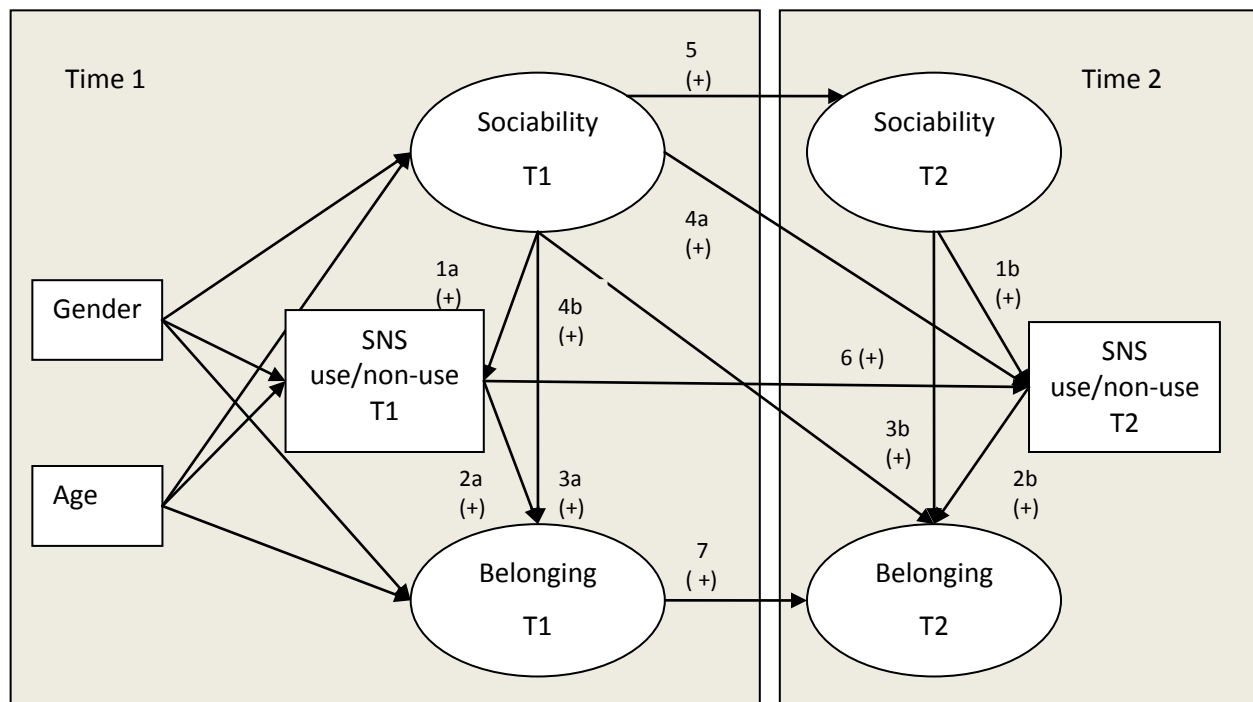


Figure 6 Hypothesised model of the relationships between sociability, SNS use and belonging between two time points with SNS use playing a mediating role. The names of the paths refer to the hypothesised relationships between each of the variables

4.1.1. The social compensation hypothesis

The rich-get-richer hypothesis focuses on the number of contacts or the extent of one's social support network. However, as has been discussed in Chapter 2 of this thesis, there are potential positive psychological effects of communicating online. For example, Valkenburg and Peter (2007) have demonstrated that the frequency of online communication with friends has a positive effect on closeness to friends. Although the evidence discussed in the previous section suggests that more sociable people are more likely to use the online environment for social interactions, there is also some evidence to suggest that shy and/or socially anxious individuals may benefit from its use in terms of positive psychological outcomes. This is known as the social compensation hypothesis. This hypothesis argues that the characteristics associated with online communication (versus FTF communication) enable socially anxious or shy individuals to self disclose more easily, therefore building effective relationships which then results in reduced levels of negative affect such as loneliness (Lee, 2009).

In terms of the *extent* to which socially anxious individuals communicate online, the evidence seems mixed. Those high in social anxiety have been found to use the internet to communicate with others less frequently than those low in social anxiety (Peter, Valkenburg, & Schouten, 2005). Conversely, among an adult sample, those high in attachment anxiety (have anxiety issues in relation to close social relationships) have been found to use Facebook more frequently than those low in attachment anxiety (Oldmeadow, Quinn, & Kowert, 2013). Although this evidence demonstrates inconsistencies in relation to the amount of time socially anxious individuals communicate online, it has been reported that shy, introverted or socially anxious people may value the online environment for communication with others more than FTF (Caplan, 2007). For example, Valkenburg and Peter (2007) report that those high in social anxiety perceived online communication as more effective than offline communication (e.g. Valkenburg & Peter, 2007). Moreover, socially anxious individuals have been found to be more likely to value the characteristics of CMC outlined by Walther's theory of hyperpersonal communication (Walther, 1996). Namely, the reduced cues and increased controllability of online communication (Schouten, Valkenburg, & Peter, 2007). Amichai-Hamburger and Hayat (2013) discuss how the online environment offers a protective environment for those who might find FTF communication difficult, allowing them to display social behaviours akin to those who are highly socially skilled. Other studies have found that introverted people are more likely to use the online environment to communicate with others (versus face to face) because they feel more

comfortable communicating in this way (Peter et al., 2005) and that introverted people may use Facebook as a way of increasing their popularity (Zywica & Danowski, 2008). However, the effects of socially anxious/introverted people communicating in this way are not conclusive. For example, Schouten et al. (2007) found no direct relationship between social anxiety and online self disclosure and Lee (2009) found that socially anxious individuals were less likely to use the online environment for communication and thus to have less cohesive friendships.

There is some evidence which points to the positive effects of CMC for those high in social anxiety. High and Caplan (2009) found that when those high in social anxiety communicated online with an unknown partner, the partner was less likely to perceive them as a socially anxious individual. Most of the research examining the link between social anxiety/shyness and online communication has demonstrated positive effects when the communication is with unknown others. It is thought that when those who are highly introverted attempt to communicate online with people known to them offline, they may be unable to act in ways associated with sociable individuals since their friends may respond in ways to remind them of their usual offline social behaviours (Amichai-Hamburger & Hayat, 2013). However, there is some evidence in support of the social compensation hypothesis when communicating with friends made in FTF settings. For example, Desjarlais and Willoughby (2010) report that among boys who were high in social anxiety, those who used online chat with friends reported higher levels of friendship quality than those who did not use online chat.

The evidence for the social compensation hypothesis has shown that when communicating with unknown others, those less socially skilled may benefit in terms of higher levels of positive factors (e.g. friendship quality) and lower levels of negative affect (e.g. loneliness). Although socially anxious, shy or introverted individuals may prefer the online environment for social interactions rather than offline, the research demonstrating the effects of this type of communication with friends are not clear. Moreover, to date, the social compensation hypothesis has not been tested in terms of the effect of online communication on feelings of belonging. The present study therefore aimed to test whether shyness moderated the relationship between SNS use and belonging. It was hypothesised that among those high in shyness, SNS users would report significantly higher levels of belonging than non-users.

4.1.2. Summary

In summary, the purpose of this study was to use a longitudinal design to (i) test part of the conceptual model outlined in Chapter 2 (ii) to test whether the rich-get-richer hypothesis could explain the relationship between SNS use and belonging and (iii) to test the social compensation hypothesis.

4.2. Method

4.2.1. Participants

Two hundred and twenty children completed the questionnaire at T1 and 239 children completed the questionnaire at T2. The participant numbers were examined to establish the number of children who had completed the questionnaire at both time points. This resulted in a sample size of 189 children. Six of these children were then removed from the sample due to excessive missing responses (i.e. at least a whole measure was not completed). This resulted in a final sample size of 183 children, 50.82% boys. The overall mean age at T1 was 11.48 years ($SD = 0.94$) and at T2 was 12.22 years ($SD = 0.41$). For boys, the mean ages at T1 and T2 were 11.41 years ($SD = 1.23$) and 12.15 years ($SD = 0.36$) respectively. For girls, the mean ages at T1 and T2 were 11.55 years ($SD = 0.50$) and 12.28 years ($SD = 0.45$) respectively. These 183 children were then assigned to a SNS usage group based on their SNS use at both time points. Group N were those who were non-users at both T1 and T2; group N/U were those who were non-users at T1 but users at T2; group U were those who were users at both T1 and T2; and group U/N were those who were users at T1 and non-users at T2. Table 4 shows the number and percentages for the overall sample and for each gender for each of these groups as well as the mean age at each time point.

Table 4

Number, percentage and mean age of participants in each SNS user group

Group	N (%)			Mean age (SD)	
	Overall	Boys	Girls	T1	T2
N	51 (27.87)	34 (36.56)	17 (18.89)	11.40 (0.50)	12.10 (0.31)
N/U	40 (21.86)	21 (22.58)	19 (21.11)	11.51 (0.51)	12.25 (0.44)
U	80 (43.71)	33 (35.48)	47 (52.22)	11.50 (1.31)	12.28 (0.45)
U/N	12 (6.56)	5 (5.38)	7 (7.78)	11.58 (0.52)	12.17 (0.39)
Total	183	93	90	11.47 (0.96)	12.22 (0.42)

Further analysis of group U/N revealed that five of the twelve participants reported using Moshi Monsters, Club Penguin or StarDoll at T1. Moreover, at T2, their reasons for non-use were because they felt these websites were too young for them but that they were not old enough to join sites such as Facebook. The remaining seven participants reported using Facebook at T1 but did not provide any reasons for their non-use at T2. It is therefore possible that within this group of 12 participants there may be important differences between the children in terms of their reasons for non-use at T2. For example, some of the T1 Facebook users may have had negative experiences and consequently did not use this site at T2 (but this is speculation). Given this possibility and due to the small number in this group, for reasons of parsimony, this group was omitted from further analyses. The final sample therefore consisted of 171 children (88 boys and 83 girls) from the remaining three groups N, N/U and U.

4.2.2. Measures

The SNS use, SNS intensity, control, sociability, shyness and belonging measures were used in this study. For those included in the SEM analyses, measurement model testing was carried out using AMOS.

4.2.2.1. Measurement model testing

Confirmatory factor analyses were carried out on each of the measures using AMOS version 21.0 (Arbuckle, 2012). Goodness of fit indices and their acceptable cut-off values have been a focus of much debate. The limits defining a 'good fit' outlined by Hu and Bentler (1999) have often been misinterpreted as strict cut-off values (Marsh, Hau, & Wen, 2004). However, Marsh et al., have highlighted that these limits were only ever intended to be a guide rather than strict rules to be adhered to. Therefore, in the present study, as recommended by Marsh et al the following guidelines have been adopted:

(i) an 'acceptable' fit of the model is identified by (a) a non-significant Chi square statistic ($p > .05$), (b) a comparative fit index (CFI) value greater than .90 and (c) a RMSEA value less than .06.

(ii) a 'good' fit of the model is identified by (a) a non-significant Chi square statistic ($p > .05$), (b) a CFI value greater than .95 and (c) a RMSEA value less than .05.

Since the data from some of the measures were non-normal, the bootstrap method was used (with 5000 samples). In these cases, the Bollen Stine p value (denoted by p_{BS}) was used as the Chi square significance value (as recommended by Byrne, 2001). For each analysis, modification indices showed that adding correlations between some of the error terms improved the fit of the model and were therefore added where appropriate. Each measurement model's goodness-of-fit indices together with the final number of correlations between error terms and the final number of parameters in each measurement model are shown in Table 5.

4.2.2.1.1. Belonging measure

Although the item 'I feel like the rest of my friendship group don't want to spend time with me' had a significant loading onto belonging at T1, its loading was low (.24). In order to maintain consistency between time points, this item was removed from both T1 and T2 measures of belonging (T2 loading = .47). This resulted in a 9 item measurement model. The factor loadings of the remaining items on both time points were $> .45$.

4.2.2.1.2. Control measure

Since the control measure contained 12 items for each time point, the process of item parcelling was carried out. This process involves grouping similar items together to form one item (a 'parcel'). It is often seen as a controversial process to use but is deemed acceptable when the items are related and when the loadings of all item parcels are greater than .70 (Kline, 2011). Since the original measure by Valcke et al (2010) was sub-divided, these three sub-measures were used to form three item parcels – 'Supervision', 'Stopping internet use' and 'Internet usage rules'. The factor loadings of each parcel at both time points were all $>.71$.

4.2.2.1.3. Sociability measure

The factor loading of the item 'I feel cut off or disconnected from others when I am alone' was non-significant at both time points ($p = .558$ and $p = .254$ respectively). This item was therefore removed from both time points resulting in a four item measurement model. All remaining item loadings were $>.48$ at both time points.

Table 5

Summary of measurement models showing the final number of parameters, correlations of error terms and goodness of fit indices

Measures	Number of parameters in final measurement	Number of correlations between error terms	Chi square			CFI	RMSEA
			χ^2	Df	p		
Belonging T1	9	3	27.91	24	.264 _{BS}	.993	.031
Belonging T2	9	5	30.51	22	.107 _{BS}	.990	.046
Control T1^a	3	0	0	0	-	1.00	-
Control T2^a	3	0	0	0	-	1.00	-
SociabilityT1	4	0	0.10	2	.953	1.00	.000
Sociability T2	4	1	0.03	1	.854	1.00	.000

^a since the degrees of freedom in these models were zero, the Chi square statistic and RMSEA statistic were unable to be calculated. Models with zero degrees of freedom are deemed 'just-identified' but still acceptable (Kline, 2011)

BS represents the Bollen-Stine significance value (Byrne, 2001)

4.2.2.2. Non-SEM analysis measures

For the analyses which used other statistical techniques, the measures as outlined in Chapter 3 were used. However, due to the measurement models showing a more accurate measurement with fewer items (e.g. the belonging measure was a better fit with nine rather than ten items), these reduced item measures were used. The reliability alpha scores and the means for each time point for SNS intensity, control, shyness and belonging are shown in Table 6.

Table 6

Reliability alpha, mean score and standard deviation of each measure used in analyses other than SEM analyses

Measure		Cronbach's α	Mean (SD)
Control	T1	.84	2.15 (0.70)
	T2	.82	1.86 (0.66)
Shyness	T1	.60	2.24 (0.64)
	T2	.54	2.25 (0.69)
Belonging (9 items)	T1	.86	4.36 (0.59)
	T2	.88	4.32 (0.63)
Sociability (4 items)	T1	.75	4.23 (0.70)
	T2	.78	4.17 (0.74)
SNS intensity	T1	.64	0.90 (0.56)
	T2	.68	-0.09 (0.74)

4.2.3. Procedure

All participants completed the questionnaire online at school at two different time points. At time point 1 (February 2012), all participants were in their first year of secondary school (year 7). At time point two (November 2012), all participants were in their second year of secondary school (year 8).

4.3. Results

4.3.1. SNS use

At T1, 46.78% of participants reported using at least one SNS to contact their friends and at T2, this percentage had increased to 70.18%. At both time points, Facebook was the most popular site with 84.62% of T1 users and 85.12% of T2 users reporting using this site to contact their friends. At T1, girls were significantly more likely to use SNS to contact their friends than boys (40.86% of boys and 60.00% of girls; $\chi^2(1) = 6.70, p = .010$). At T2, girls were again significantly more likely to use SNSs to contact their friends (58.51% of boys and 73.03% of girls; $\chi^2(1) = 4.27, p = .039$).

4.3.2. Testing the core model

The acceptable cut-off values of the goodness of fit indices as outlined in section 4.2.2.1 were used in the structural model testing presented here. The models outlined in Figures 4 and 5 were tested involving the whole sample (N=171). Since the data for the measure of belonging were non-normal, the bootstrapping method was used (5000 samples; Byrne, 2001). Therefore, the Chi square significance values reported are the Bollen Stine significance values (denoted by p_{BS}) and the coefficient and significance values of each path were taken from the bootstrapped values.

The first model including Control as the parenting strategy, was an acceptable fit to the data, $\chi^2(327) = 434.58, p_{BS} = .287, CFI = .943, RMSEA = .044$ and explained 23% of the variance in belonging at T2. However, a number of paths were found to be not significant. Figure 7 shows the significant paths (see Table 7 *Bootstrapped standardised coefficients and significance values of the non-significant pathways of the structural model including control as the parenting variable* for the coefficients, standard errors and significance values of all paths). Figure 7 shows that SNS use was positively related to feelings of belonging but only at T1 and not at T2 nor between T1 and T2. Age was negatively related

to levels of control and positively related to SNS use. Gender was also positively related to SNS use (meaning girls were more likely to use these sites compared to boys).

Table 7 *Bootstrapped standardised coefficients and significance values of the non-significant pathways of the structural model including control as the parenting variable*

Predictor	Predicted	Bootstrapped		
		<i>b</i>	<i>SE</i>	<i>p</i>
Gender	➔ Control T1	.09	.09	.317
Gender	➔ SNS use T1	.21	.07	.005
Gender	➔ Belonging T1	-.02	.09	.848
Age T1	➔ Control T1	-.19	.08	.015
Age T1	➔ SNS use T1	.15	.08	.049
Age T1	➔ Belonging T1	-.08	.08	.334
Control T1	➔ SNS use T1	-.14	.09	.106
Control T2	➔ SNS use T2	-.02	.09	.749
Control T1	➔ SNS use T2	.08	.08	.276
SNS use T1	➔ Belonging T1	.19	.08	.025
SNS use T2	➔ Belonging T2	.09	.09	.298
SNS use T1	➔ Belonging T2	-.14	.08	.089
SNS use T1	➔ Control T2	-.04	.08	.619
Belonging T1	➔ SNS use T2	-.08	.08	.310
Control T1	➔ Control T2	.40	.11	<.001
SNS use T1	➔ SNS use T2	.64	.05	<.001
Belonging T1	➔ Belonging T2	.49	.10	<.001

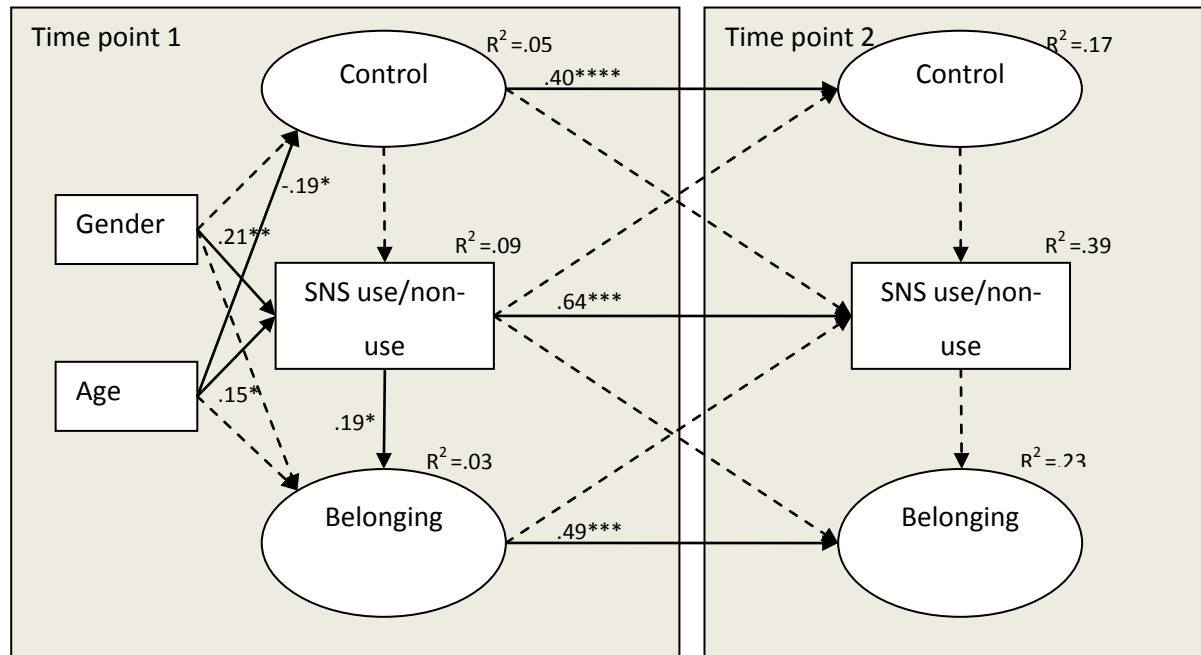


Figure 7 Structural model of relationships between parental control, SNS use and feelings of belonging at and between T1 and T2. Significant paths are shown by the solid black arrows and are shown with their bootstrapped standardised coefficients. Dotted arrows represent the paths which were found to be non-significant (see Table 7 for the bootstrapped standardised coefficients, standard errors and corresponding significance values of all hypothesised paths).

The second model including Warmth as the parenting strategy did not yield an acceptable fit to the data, $\chi^2(326) = 507.48$, $p_{BS} < .001$, CFI = .808, RMSEA = .088. Further investigation into this model showed that warmth was not significantly related to SNS use either within time points (T1 $b = -.01$, $p = .382$; T2 $b = .04$, $p = .731$) nor between time points ($b = -.02$, $p = .723$). Since it is theoretically possible for warmth not to be related to SNS use, these paths were removed and the model tested again. This new model still showed an unacceptable fit to the data, $\chi^2(330) = 754.12$, $p_{BS} < .001$, CFI = .809, RMSEA = .087. It was therefore concluded that the model including the parenting strategy of warmth was not a satisfactory model and thus conclusions regarding the role of warmth in any relationship between SNS use and feelings of belonging cannot be made.

4.3.3. Testing the rich-get-richer hypothesis

The hypothesised model (see Figure 6) was tested using SEM to test the rich-get-richer hypothesis. The hypothesised model did not reach all criteria for an acceptable fit, $\chi^2(380) = 618.69$, $p_{BS} = .097$, CFI = .886, RMSEA = .061. The paths of SNS use to belonging within each time point were found to be non-significant (T1: $b = .05$, $p = .699$; T2: $b = -.27$, p

=.054) as was the path between SNS use T1 to belonging T2 ($b = .20, p = .250$). Since it is theoretically possible that sociability is related to both SNS use and belonging and therefore might explain the direct path between SNS use and belonging, these paths were removed from the model (i.e. paths 2a, 2b and 3b) and the model tested again. The new model fit remained relatively unchanged showing a less than acceptable fit, $\chi^2(383) = 622.41, p_{BS} = .097, CFI = .885, RMSEA = .061$.

Since this structural model did not reach the requirements of an acceptable fit to the data, further analyses were carried out to investigate differences in levels of sociability between the three SNS user groups (N, N/U and U). The rich-get-richer hypothesis would be supported if SNS group U scored higher than group N at both T1 and T2 on levels of sociability. In addition, if sociability predicts SNS use (as the rich-get-richer hypothesis suggests), one would expect group N/U to have levels of sociability equal to that of group U at both time points but higher than group N at both time points. Figure 8 shows the mean sociability scores for each of the SNS user groups at T1 and T2. A mixed 2 (sociability T1, T2) x 3 (SNS user group) ANOVA showed no significant main effect of sociability, $F(1, 168) = 0.12, p = .733$, no significant main effect of SNS user group, $F(2,168) = 1.46, p = .236$ but a significant interaction, $F(2,168) = 3.27, p = .041$. Pairwise comparisons showed that at T1, SNS user group U scored significantly higher than SNS user group N/U, $p = .029$. There were no other significant differences between the three groups at T1 (between group N/U and N, $p = .646$; between group U and group N, $p = .069$). At T2, there were no significant differences between the three groups in levels of sociability (between group N and group N/U, $p = .221$; between group N and group U, $p = .286$; between group N/U and group U, $p = .726$). In addition, levels of sociability decreased among SNS user group U from T1 to T2, $F(1,168) = 4.31, p = .040, r = .16$. Levels of sociability remained stable between T1 and T2 for user group N/U, $F(1,168) = 2.71, p = .101, r = .13$ and for user group N, $F(1,168) = 0.62, p = .433, r = .06$. These analyses do not offer support for the rich-get-richer hypothesis.

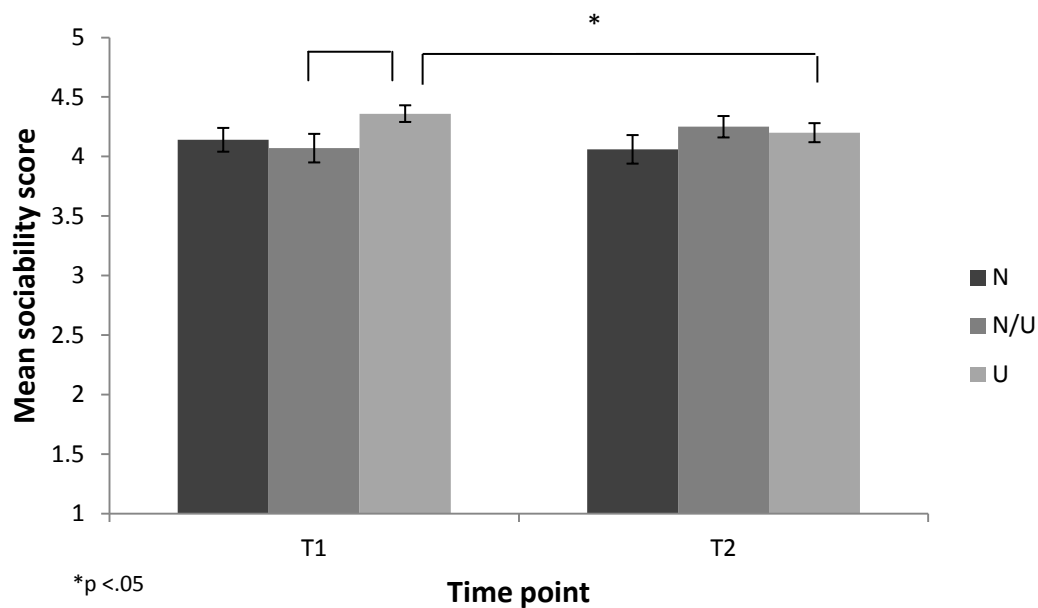


Figure 8 Mean sociability scores for each SNS user group at T1 and T2

4.3.4. Testing the social compensation hypothesis

Since the structural model shown in Figure 7 found a significant relationship between SNS use and belonging at T1 only, the social compensation hypothesis was tested at T1 only. An independent t-test showed no significant differences in levels of shyness between SNS users ($M = 2.16$, $SD = 0.64$) and non-users ($M = 2.30$, $SD = 0.63$) at T1, $t(169) = 1.38$, $p = .171$. To test for the moderating role of shyness, a bootstrapped moderated regression was used. SNS use T1, shyness T1 and their interaction term were regressed onto belonging T1. A significant model was found, $F(3,167) = 9.79$, $p < .001$, $R^2 = .15$. Table 8 shows a significant effect of shyness on belonging ($b = -.47$) and a significant interaction between shyness and SNS user/non-user ($b = .52$). Figure 9 shows that for non-users, levels of belonging significantly reduced when levels of shyness increased ($b = -.43$, $p < .001$). For SNS users, levels of belonging remained relatively stable regardless of levels of shyness ($b = -.20$, $p = .069$) suggesting that SNS use offers shy people a way to maintain feelings of belonging.

Table 8

Coefficients and significance values of a regression model where SNS use T1, shyness T1 and their interaction term are regressed onto belonging T1

Predictors	Bootstrapped			
	<i>b</i>	Beta	SE	<i>p</i>
SNS use T1	-.39	-0.47	.31	.129
Shyness T1	-.47	-0.43	.11	<.001
SNS use T1 x Shyness T1	.52	0.27	.14	.049

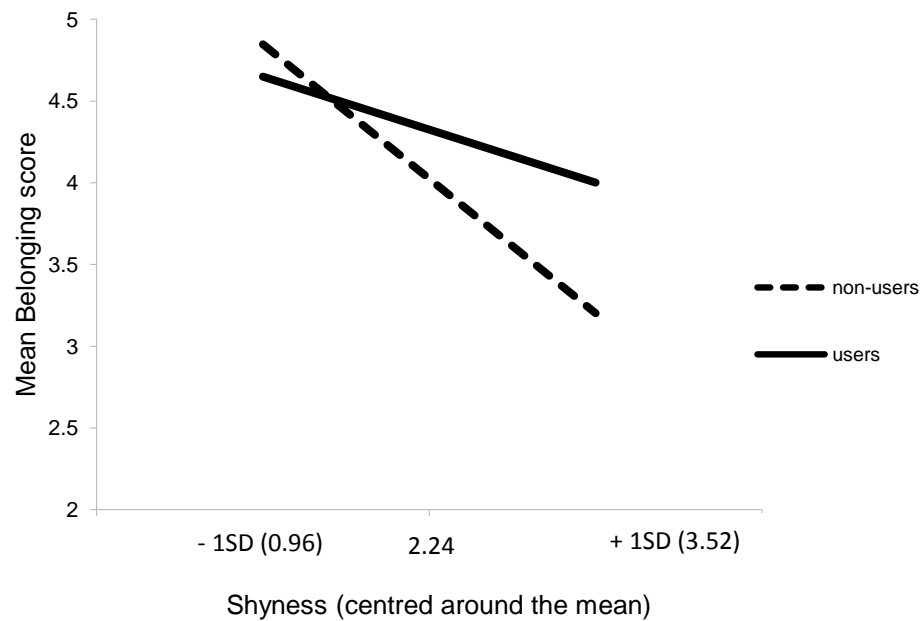


Figure 9

Relationship between shyness and belonging amongst SNS user and non-users

4.4. Discussion

The present study aimed to address several points. Firstly, it tested part of the conceptual model outlined in Figure 2 in terms of causal pathways. No causal relationships were found although SNS use was found to be significantly and positively related to belonging at T1. The second aim of the study was to test for evidence in support of the rich-get-richer hypothesis, specifically testing whether those high in sociability are more likely to use SNSs to extend their already sociable world. Support was not found for this hypothesis in the study presented here. The third aim was to test the social compensation hypothesis.

Support was found for this hypothesis showing that those who did not use SNSs had increasingly lower levels of belonging as levels of shyness increased. No such relationship was found among SNS users, suggesting SNS use provided some level of protection against the negative effects of shyness on belonging.

The present study only found partial support for the conceptual model outlined in Chapter 2. Specifically, hypothesis 9 was supported but only within T1. The testing of the model showed no support for hypothesis 9 across time or within T2. This would suggest that SNSs do not play a causal role in feelings of belonging to the friendship group, at least between the two time points in the present study. Time point one was at the beginning of the Spring Term of the first year of secondary school and the second time point was during the Autumn Term of the second year of secondary school. It is possible that a causal role may be evident at different time points in a child's/adolescent's life, for example, the transition to secondary school. Measurements could be taken from participants at the end of the last year of primary school and at the end of the first term at secondary school. Future studies should aim to take measurements at this crucial time in a child's social and educational life. This may show some evidence in support of a causal role of SNSs in feelings of belonging to the friendship group during the transition to secondary school.

Another possible explanation for the lack of causal evidence between the two time points of this study is that SNSs may have a causal role to play in feelings of belonging only at T1 (i.e. in year 7). This first year of secondary school is a period of great adjustment for early adolescents. They are making new friendships and forming bonds with others who may not live in their local area or be known to their family. Using sites such as Facebook may be an effective way to begin to manage these new friendship groups outside of school hours. It may be useful for future research to carry out a longitudinal study where both time points are within this school year. The findings from this sort of study would be able to provide evidence for the suggestion that SNSs have a causal role to play in the first year of secondary school. Of course, it may also be possible that SNSs do not play a causal role at all but that both SNS use and belonging are influenced by a third factor not measured in this thesis. It is therefore important for future research to also explore possible variables which may explain the concurrent relationship found here. Nevertheless, the results presented in this chapter show that SNS use at T1 was related to belonging at T1 which in turn was related to belonging T2. In that respect, the relationship between SNS use T1 and belonging T2 is mediated by belonging T1 and that may be important on some level. That is,

if early adolescents feel they belong to their friendship group in year 7 (which was found to be related to SNS use), they are more likely to feel they belong to their friendship group in year 8. This is important since it shows that feelings of belonging at a second time point are influenced by feelings of belonging at a prior time point. If SNS use has some level of influence on belonging at time point 1 then it could be argued that it has an indirect causal role in belonging at a later date.

The results from testing the core model did not show any relationships between levels of control and SNS use (in addition the model attempting to measure warmth, SNS use and belonging was not found to be a good fit). Moreover, the present study found no evidence that SNS use affects parenting (path 3a). From the present study then, it would seem that levels of parenting are not related to SNS use - either parenting levels influencing SNS use or SNS use influencing parenting levels. This may be because children within this age range are still relatively young and therefore parents may feel that their child needs the same level of parenting while online regardless of whether they are allowed on SNSs or not. Similarly, it also demonstrates that within this age range, once children are on SNSs it does not result in parents utilising higher levels of parenting strategies as suggested by Kirwil et al, (2009). Thus, in this instance, hypotheses 7 and 8 are not supported.

The second aim of the study was to test the rich-get-richer hypothesis. The testing of the structural model did not result in an acceptable fit to the data and thus further analyses were needed. Participants who used SNSs at T1 scored higher on sociability but only in comparison to the group who did not use SNSs at T1 but did so at T2 (group N/U). Furthermore, there were no significant differences between the three SNS user groups at T2 on levels of sociability. These analyses suggest that in the present sample, those higher in sociability were not more likely to use SNSs compared to those low in sociability. Thus, it is unlikely that the relationship found between SNS use and belonging at T1 in the structural model testing phase was a result of levels of sociability. If it were, one would expect T1 SNS users to score higher on sociability than all T1 non-users and for all T2 users to score higher than all T2 non-users, but this was not the case. The lack of support for the rich-get-richer hypothesis therefore raises questions over the factors which influence SNS use at this younger age. The literature shows that internet parenting levels decrease with the age of the child with a particular reduction in the teenage years (Lee, 2012; Livingstone & Helsper, 2008; Wang, Bianchi, & Raley, 2005). Thus some authors may argue that at this age (11-13 years), parenting levels may be a factor which has a greater influence on

whether children use SNSs or not than the characteristics of the child (although it should be remembered that no evidence of this is found in this study). Future studies should therefore aim to test the contribution of various parental and child characteristics on SNS use within this age group. However, the reliability of the sociability measure must also be considered. The measure used in the present study was fairly short (initially 5 items, reduced to 4 items in the measurement model testing phase). This was due to the length of the existing questionnaire and over concern for the concentration levels of the participants and therefore the quality of the resulting data. Future studies examining the rich-get-richer hypothesis should aim to use a more comprehensive measure of sociability and to test the relationship between levels of sociability and SNS use.

The testing of both the core model as well as the rich-get-richer hypothesis raises an important point. In the testing of the core model, belonging at T1 was found to positively predict belonging at T2 and in the testing of the rich-get-richer hypothesis, sociability at T1 was found to be positively related to sociability at T2. These results demonstrate the key indicators in aspects such as belonging and sociability. That is, the existing levels of these constructs are the strongest predictors. This would support the view that it is the characteristics of the child which are the best predictors of aspects relating to wellbeing rather than the use (or non-use) of technology. This is important to acknowledge and some of the results presented in the current chapter might add to the evidence which suggests that technology is not the main factor influencing the psychological health (healthy or unhealthy) of children and adolescents of today. Rather, factors such as child and household characteristics are the most important (although these have not been directly measured here).

The third aim of this study was to test the social compensation hypothesis. Specifically, the aim was to test whether those high in shyness would benefit from communication via SNSs in terms of feelings of belonging. Support was found for this hypothesis. Although there was no difference in overall levels of shyness between SNS users and non-users, among non-users, higher levels of shyness were related to lower levels of feelings of belonging. However, among SNS users, levels of belonging remained relatively stable, regardless of levels of shyness. This would suggest that shy individuals are more likely to fulfil their belonging needs when communicating via a SNS with friends. In agreement with other studies (e.g. Lee, 2009, Peter et al., 2005), the present study offers further support for the positive effects of CMC for shy, introverted or socially anxious

individuals. In terms of the present sample, those shy early adolescents may find it difficult to integrate themselves into a friendship group offline, finding it difficult to share personal information or emotions or to display group norms which can help them feel part of the group. The features of CMC may therefore help these early adolescents increase their feelings of belonging since they can use sites such as Facebook to present themselves in a more controlled way and without the pressures of the usual auditory and visual cues of FTF communication. The present study however, did not offer any direct evidence that highly shy individuals use SNSs in a different way to non- or low shy individuals and hence these suggestions are purely speculative. Future studies should examine how highly shy individuals make use of and to what degree they value platforms such as SNSs as a method of communicating with friends.

Although a positive relationship between SNS use and belonging was found in the present study (albeit only at T1), it cannot offer any evidence of whether this particular relationship would be true for each gender and at each age within the age range of interest (9-13 year olds). Moreover, it cannot offer any evidence about the relationship between the extent of SNS use and feelings of belonging nor about the relationship between the type of device used and feelings of belonging. In addition, although no relationships were found between parenting strategies and SNS use, it cannot offer conclusive evidence that this finding would hold for both genders across the 9-13 year old age range. It also does not provide any evidence of how parenting strategies might have a relationship with the extent of SNS use among SNS users. Since this study collected data from children only, the perceptions of parents and parental reports of control and warmth were also unable to be tested. The following chapters will therefore address these limitations and will aim to investigate further the hypothesised paths of the conceptual model shown in Chapter 2.

In summary, the present study offered evidence of a concurrent relationship between SNS use and feelings of belonging and an indirect effect of SNS use T1 on belonging at T2. It was not able to offer any evidence of direct causality in terms of the core model of the thesis. No evidence was found to support the rich-get-richer hypothesis which raises questions surrounding the factors which influence SNS use within this younger age group. These results also raise questions with regard to the importance of the role of technology in child and adolescent wellbeing indicating that existing constructs relating to child characteristics may be the most important indicators of wellbeing. Support was found for the social compensation hypothesis, providing further evidence shy people may benefit

from communication online. SNSs may be one platform which can offer shy individuals a tool to aid increased feelings of belonging to the friendship group. Although evidence of causality was not presented in this chapter, it does offer evidence of a relationship between SNS use and feelings of belonging. The following chapters will investigate further the hypothesised relationships presented in the conceptual model, building on the findings of the present study.

Chapter 5. SNS use, Belonging and Internet Parenting. An Exploratory Study (Study 2)²

'I'm desperate to get Facebook, but my Mum and Dad won't let me go on it. All my friends are on it. It's so unfair and I sometimes feel left out when my friends are talking about what they've been doing on Facebook and what's happened'

Girl, aged 11 years

5.1. Introduction

The previous chapter tested part of the conceptual model outlined in section 2.6 and found that although there were no relationships between SNS use and belonging between the time points or at T2, a significant relationship was found at T1. In order to explore this further, the present chapter looks again at these aspects of the conceptual model in more detail. Figure 10 shows the parts of the model to be addressed. Firstly, the links between parenting strategies and SNS use will be tested in further detail (hypotheses 7 and 8), aiming to examine gender and age (9-13 years) effects in the direct relationships between control and SNS use and Warmth and SNS use. These relationships will be tested within the context of SNS use/non-use but also within the context of intensity of SNS usage among SNS users. The second part of this study will aim to test hypothesis 9 in more detail by again examining age and gender effects both within the context of SNS use/non-use and intensity of SNS usage.

² Parts of this chapter are published in a peer review journal: Quinn & Oldmeadow (2013) Is the i-generation a 'we' generation? Social networking use among 9-13 year olds and belonging. *British Journal of Developmental Psychology*, 31(1) 136-142, DOI:10.1111/bjdp.12007

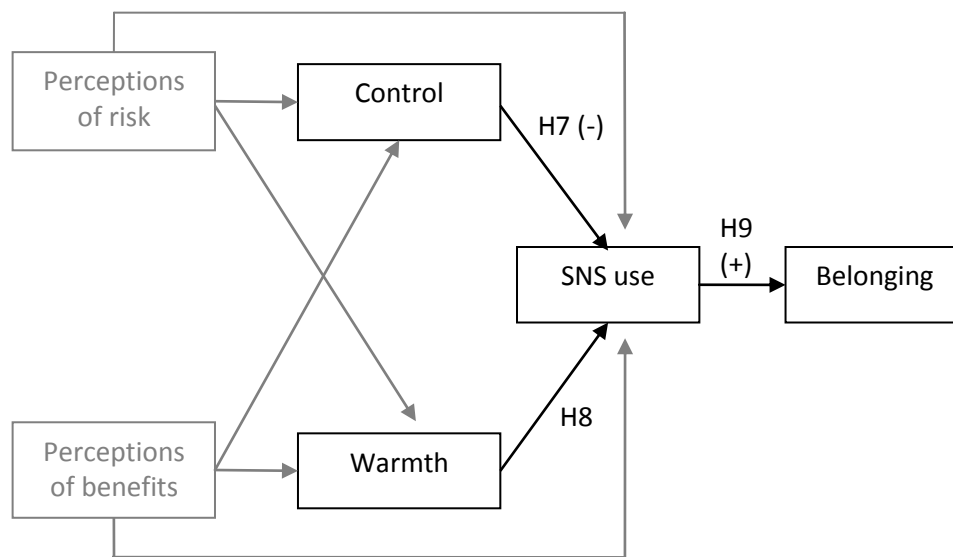


Figure 10 Parts of the conceptual model to be tested in the present study. Black lines represent the hypotheses to be tested in the current chapter

The present study will test hypothesis 7 again with a wider age range, hypothesising that higher levels of control will predict non-use of SNSs. Within the testing of this hypothesis, age and gender effects will be explored:

RQ1 are there any age effects on H7?

RQ2 are there any gender effects on H7?

Hypothesis 7 will also be explored within the context of SNS intensity. As previous research has found positive relationships between CMC and psychological outcomes, the following is predicted:

H7a – higher intensity of usage of SNSs will be positively related to feelings of belonging

As with hypothesis 7, age and gender effects will be explored:

RQ3 are there any age effects on H7a

RQ4 are there any gender effects on H7a

Hypothesis 8 will be tested again. As with the conceptual model, no direction is hypothesised. As with H7 and H7a, age and gender effects will be explored:

RQ5 are there any age effects on H8

RQ6 are there any gender effects on H8

Hypothesis 8 will also be explored within the context of SNS intensity. As with hypothesis 8, no direction is predicted and age and gender effects will be explored:

H8a – there will be a relationship between SNS intensity and levels of warmth

RQ7 are there any age effects on H8a

RQ8 are there any gender effects on H8a

The literature examining positive effects of CMC on psychological wellbeing have shown consistent results across different age groups (e.g. Valkenburg & Peter 2007a). In terms of the age of the present sample, there is no literature on age differences and the positive psychological outcomes associated with SNS use. Hence potential age effects on the relationship between SNS use and belonging deserves exploration with the current sample.

Although there is a paucity of research investigating gender differences in the effects of SNS use, there is some research examining other types of CMC which demonstrate possible gender effects (e.g. Punamaki, Wallenius, Holtto, Nygard & Rimpela, 2009). There has been some evidence that girls may be more likely than boys to use the social platforms offered by the internet (McQuillan & D’Haenens, 2009) and this was supported in the study presented in the previous chapter where gender was found to be related to SNS use at T1. However, some argue that this gender gap may be diminishing (McQuillan & D’Haenens, 2009). In terms of the effects of using the social platforms of the internet, the literature which examines gender differences in the *effects* of CMC are mixed.

There is some evidence that boys’ friendships may benefit from online communication more than girls’. In a study with 10 to 13 year olds, Punamaki, Wallenius, Holtto, Nygard, and Rimpela (2009) found a positive association between online communication (email and chat room) and friendship quality among boys but not girls. Moreover, there is some evidence that boys as young as 10 years old value the online environment for self- disclosure more than girls (Valkenburg et al., 2011) and that online self-disclosure increases friendship quality (Valkenburg & Peter, 2009a). The online environment might therefore aid boys’ friendships by offering a valuable platform for friendship development in addition to that offered by the offline world. For girls however, there is evidence that online communication may not be related to friendship benefits. In a sample of 8 to 12 year old girls, Pea et al. (2012) found no association between online

communication (SNSs, email and instant messaging) and social success (e.g. feeling accepted by friends). They did however find that face to face contact was positively associated with social success. Since girls' friendships at this age tend to be characterised by higher levels of self-disclosure than those of boys (Buhrmester & Prager, 1995), girls' online interactions might not offer additional friendship benefits over and above those already gained in offline interactions. The literature on gender differences would seem to suggest that boys rather than girls might benefit more from online communication among this age group. However, since the literature on gender differences is sparse, this is far from conclusive and thus the effect of gender on the relationship between SNS use and belonging warrants investigation.

Within the context of hypothesis 9 of the conceptual model and of the literature discussed above, the following hypotheses/research question will be tested in the present study:

H9 – SNS use will be positively related to belonging

RQ9 – are there any age effects on H9?

RQ10 – are there any gender effects on H9?

H9a – there will be a positive relationship between SNS intensity and belonging

RQ11 – are there any age effects on H9a

RQ12 – are there any gender effects on H9a

5.2. Method

5.2.1. Participants

Several local primary and secondary schools were approached to ask for their help in recruiting participants to take part in the research. Five primary schools and two secondary schools agreed. Consent forms were distributed to all seven schools to gain adult consent. Consent was gained for 443 children (48.98 % boys) aged 9 to 13 years ($M = 11.83$, $SD = 1.23$) and thus formed the sample for this study.

5.2.2. Measures

The measures used in this study are presented in Table 9 together with the reliability alphas, mean score and standard deviation for each measure. In the first study, the item 'I feel like the rest of my friendship group don't want to spend time with me' was removed from the belonging measure due to a low loading (see section 4.2.2.1.1). Reliability analyses were therefore conducted in a little more depth for this measure to examine the effect of this item of the overall measure. This item was found to correlate with the total scale to a moderate degree ($r = .30$) and was therefore retained in the belonging measure. Belonging was not related to age ($b = -.01, p = .826$) but girls ($M = 4.34, SD = 0.55$) reported higher belonging scores than boys ($M = 4.22, SD = 0.65; t(440) = -2.14, p = .033$).

Table 9

Reliability alpha, mean score and standard deviation of each measure

Measure	Cronbach's α	Mean (SD)
Belonging	.86	4.28 (0.60)
SNS intensity	.72	0.60 (0.58)
Control	.79	2.13 (0.81)
Warmth	.89	2.38 (0.93)

5.2.3. Procedure

All participants completed the measure in school in a classroom environment. 137 children completed the questionnaire in paper format and 306 completed the questionnaire online. All children were supervised either by their teachers and/or the researcher. Before completing the questionnaire, participants were informed that the questionnaire would ask them about their use of SNSs and about their friendship groups. They were told that there were no 'correct' answers and that they should answer questions as truthfully as possible. All participants were also informed that if they did not want to answer any questions, they did not have to. The questionnaire was completed by all children in less than 30 minutes. Support was provided for children who required help with reading. This was provided by either the researcher or the participant's teacher.

5.3. Results

5.3.1. Parenting strategies and SNS use

5.3.1.1. Control and warmth strategies

Initial analyses revealed that there were no significant gender differences in children's reports of their parents' levels of warmth and control (see Table 10). However, age was found to be negatively related to both control ($b = -.41, p < .001$) and warmth ($b = -.39, p < .001$) demonstrating that younger children reported their parents using higher levels of both strategies than did older children.

Table 10

Mean scores for boys and girls for control and warmth strategies together with the results of a t test showing no significant differences

Measure	Boys	Girls	t	df	p	r
Control	2.20 (0.91)	2.33 (0.79)	-1.54	392	.125	.08
Warmth	2.40 (0.95)	2.58 (0.95)	-1.90	398	.058	.09

5.3.1.2. The relationship between control and warmth strategies and SNS use/non-use (H7 and H8)

To test whether control and warmth strategies were related to SNS use, a logistic regression analysis was carried out with SNS use/non-use as the outcome variable (non-use = 0). The predictor variables included age, gender, control and warmth. All continuous variables were centred (age, control, warmth). The regression involved four steps with the first step including all predictor variables, the second step the two way interactions of these variables, the third step the three way interactions and the fourth step the four way interaction. The interaction terms did not significantly improve the model (step 1 to step 2, $\chi^2(6) = 5.62, p = .467$; step 2 to step 3, $\chi^2(4) = 3.39, p = .495$; step 3 to step 4, $\chi^2(1) = .001, p = .981$). The model in the first step was significant, $\chi^2(4) = 51.06, p < .001$. Table 11 shows the relationships between the variables and SNS use in this model. Age was the only significant predictor of SNS use. Neither control nor warmth strategies predicted SNS use.

Table 11

Logistic regression model with SNS use/non-use as the outcome variable and gender, age, control warmth and their interaction terms as the predictors

	<i>B</i> (SE)	<i>p</i>	Exp <i>b</i> (Odds ratio)	95% CI for Exp <i>b</i>	
				Lower	Upper
Age	.21 (.22)	<.001	0.55	0.80	0.67
Gender	-.61 (.10)	.336	1.24	0.45	1.91
Control	-.18 (.21)	.371	0.83	0.56	1.25
Warmth	.11 (.18)	.551	1.12	0.78	1.59

$R^2 = .12$ (Cox & Snell); $.16$ (Nagelkerke).

5.3.1.3. The relationship between control and warmth strategies and SNS intensity (H7a and H8a)

To test for the relationships between the control and warmth strategies and SNS intensity, a moderated hierarchical multiple regression was carried out. SNS intensity was the outcome variable. Age, gender, control and warmth and their interaction terms were entered as the predictor variables. The inclusion of the interaction terms did not significantly improve the R^2 value (Step 1 to 2 R^2 change = $.04$, $p = .113$; step 2 to step 3 R^2 change = $.001$, $p = .949$). Step 1 with the individual variables showed a significant model, $F(4,223) = 4.30$, $p = .002$. Table 12 shows the beta values, standard errors and significance values of this model. As expected, age was significantly and negatively related to SNS intensity usage. Control was also a significant predictor with higher levels of control being reported by children who used SNSs less intensively.

Table 12

Beta values, standard errors and significance values of model with SNS intensity as outcome variable

	Beta	SE	<i>B</i>	<i>p</i>
Age	-.12	.05	-.17	.014
Gender	.02	.10	.01	.861
Control	-.22	.09	-.24	.020
Warmth	.09	.08	-.11	.262

5.3.2. SNS use and belonging

5.3.2.1. SNS use

Overall, 59.59 per cent of participants reported using at least one SNS to contact their friends with Facebook being the most popular site. Table 13 shows the percentage of children who reported using each of the SNSs to contact their friends from their main friendship group.

Table 13

Percentage of children who reported using SNSs to contact their friendship group

SNS	% using SNS to contact friends		
	Overall	Boys	Girls
Overall	59.59	58.72	61.06
Facebook	49.89	50.23	49.56
Beebo	1.80	2.76	0.88
Twitter	7.00	8.29	5.75
MySpace	4.06	3.22	4.87
Club Penguin	8.58	9.22	7.96
StarDoll	3.61	0.92	6.19
Moshi Monsters	7.67	4.61	10.62
Habbo	4.74	4.61	4.87
Neopets	1.13	0.50	1.77
Poptropica	1.81	1.38	2.21
Other	14.67	13.82	15.49

No significant gender differences were found in overall SNS usage, $\chi^2(1) = .254, p = .614$ (see Table 13 for percentage of SNS users for each gender) nor with intensity of use ($M_{\text{boys}} = .03, SD = 0.58; M_{\text{girls}} = .09, SD = 0.58, t(264) = -0.81, p = .420$). SNS users ($M = 12.21$ yrs, $SD = 1.06$) were significantly older than non-users ($M = 11.30$ yrs, $SD = 1.25, t(337.90) = -7.94, p < .001$) and age was significantly related to intensity of usage ($b = .30, p < .001$).

The responses to the open ended question asking non-users why they did not use SNSs were analysed. Five themes were identified in the responses. Table 14 shows the themes together with the percentage of responses that contained these themes. The two

most popular reasons provided for why participants did not use SNSs were due to parental restrictions and/or because the participant reported that they were not interested in using these sites.

Table 14

Themes identified and the corresponding percentage of responses to the question ‘Tell us why you do not use SNSs’

Theme	% of responses
Disinterest	40.48%
Parental Restrictitons	40.48%
Risks	19.05%
Age restrictions	16.67%
Friends don’t use	9.52%

Note: Participants’ responses may have included more than one theme and therefore these themes are not mutually exclusive

5.3.2.2. Differences in feelings of belonging between SNS user and non-users (H9)

To explore differences in belonging between users and non-users, a bootstrapped³ moderated regression was carried out regressing age (centred), gender (boy = 0), SNS user group (0 = non-user) and their interaction terms onto belonging. A significant model was found, $F(7,433) = 3.24, p = .002, R^2 = .05$. Table 15 shows the coefficients for this model. A significant 3 way interaction was found. Age, SNS user group and their interaction terms were therefore regressed onto belonging for each gender. For girls, no significant model was found ($p = .509$). However, for boys, the model was significant, $F(3,212) = 4.98, p = .002, R^2 = .07$, with a significant two way interaction ($b = .30, p = .003$, see Figure 11). Amongst boys who used SNSs, belonging remained constant across age ($b = .09, p = .324$). However, amongst non-users, belonging decreased with age ($b = -.30, p = .004$).

³ Bootstrapping is a particularly useful method to use when data are non-normal and therefore do not meet the assumptions required for parametric testing (Field, 2009). In this thesis, belonging was found to be negatively skewed and therefore was not normally distributed. 5000 bootstrapped samples were used (Preacher & Hayes, 2004) throughout unless otherwise stated.

Table 15

Standardised coefficients of a regression model when age, gender, SNS user group and their interaction terms are regressed onto belonging

Variables	<i>b</i>	<i>p</i>
Age	-.36	<.001
Gender	.18	.029
SNS user group	.16	.020
Age x gender	.26	.010
Age x SNS user group	.31	.001
Gender x SNS user group	-.07	.460
Age x SNS user group x gender	-.25	.009

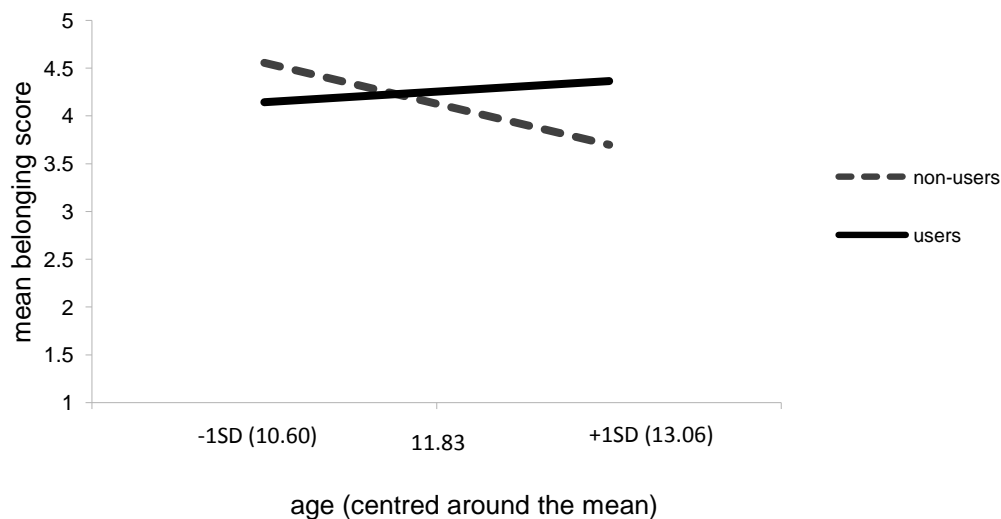


Figure 11 Relationship between age and belonging amongst boy SNS users and boy SNS non-users

5.3.2.3. Relationship between SNS usage intensity and belonging (H9a)

The relationship between SNS usage intensity and belonging was explored among SNS users (n=264). SNS intensity (centred), age (centred), gender (boys = 0) and their interaction terms were regressed onto belonging, using the bootstrapping method. A significant model was found, $F(7,255)=3.35$, $p=.002$, $R^2=.08$, which included a main effect of SNS intensity as well as a gender by SNS intensity interaction (see Table 16). SNS

intensity was positively associated with belonging for boys ($b = .37, p < .001$) but not girls ($b = .10, p = .263$ see Figure 12).

Table 16

Standardised coefficients of a regression model when age, gender, SNS intensity and their interaction terms are regressed onto belonging

Variables	b	p
Age	-.06	.527
Gender (boy = 0)	.06	.434
SNS intensity	.39	<.001
Age x gender	<.00	.997
Age x SNS intensity	-.04	.633
Gender x SNS intensity	-.21	.028
Age x SNS intensity x gender	.10	.271

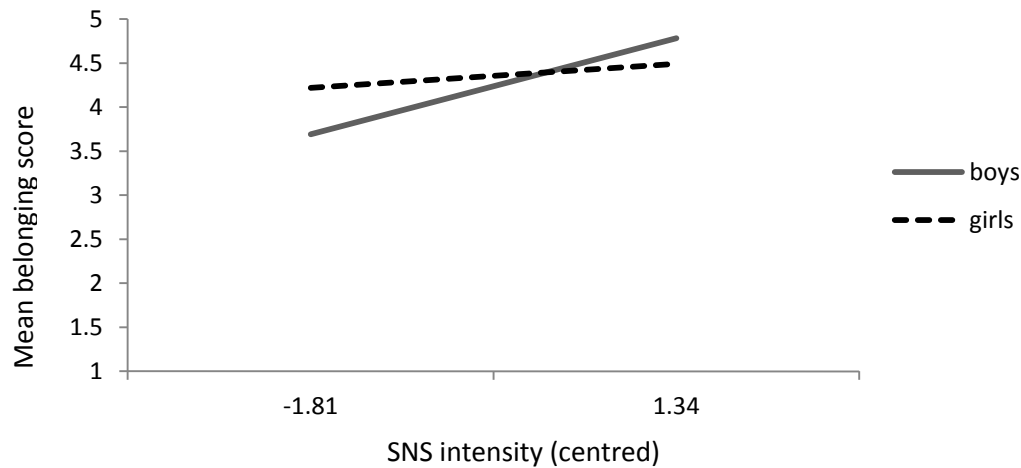


Figure 12 Relationship between SNS intensity and belonging amongst boys and girls

5.4. Discussion

The present study aimed to explore the conceptual model in more depth by examining the gender and age effects on the relationships between (i) parental strategies and SNS use (hypotheses 7 and 8) and SNS use and belonging (hypothesis 9). Similar to Study 1, the present study again showed no support for hypothesis 7 or 8 in terms of SNS use/non-use. However, some support was found for hypothesis 7a. The study showed that those who reported higher levels of parental control also reported using SNSs less intensively. This might suggest that higher levels of restrictions restrict the extent to which

children can use the social aspects of the internet. In accordance with the suggestion made by Livingstone and Helsper (2008), higher levels of parental control may be restricting interactions with friends. However, the present study only provided partial support for this suggestion since there was no relationship between parenting strategies and SNS use/non-use (although one of the main reasons provided for non-use of these sites was due to parental restrictions). In addition, since no causal evidence was presented in the present chapter it cannot be concluded that higher levels of control causes children to use these sites less intensively. Nevertheless, it does show some level of support for the proposition that higher levels of restrictions may result in children's use of the social tools of the internet being curtailed

In terms of hypotheses 9 and 9a, among older boys, those who used SNSs reported higher feelings of belonging to their friendship group than those who did not use SNSs. Furthermore, among all SNS using boys, SNS intensity was positively related to feelings of belonging. These results suggest that SNSs may be important for boys' feelings of belonging to their friendship group and parallel previous research showing gender differences in associations between online communication and friendship quality/closeness (Punamaki et al., 2009; Valkenburg et al., 2011). Although the present study cannot offer evidence of causality between SNS use and feelings of belonging, it does provide further evidence of an association between SNS use and belonging. Specifically, it provides a deeper insight into possible associations between belonging and SNS usage (in terms of intensity of use) but also possible gender effects.

Amongst 9 to 13 year olds, boys' friendship groups are characterised by lower levels of self disclosure, acceptance and closeness than those of girls' (Rose & Rudolph, 2006). In the offline world, boys' self disclosure increases at around age 13/14 years, later than that of girls (age 11 years; Buhrmester & Prager, 1995). However, research suggests that the online environment might be valued more by boys as a rehearsal space to practise self disclosure skills (Valkenburg et al., 2011) and SNSs may be one such environment. Since intimacy, caring and frequent interaction can help to achieve a sense of belonging (Baumeister & Leary, 1995), interactions on SNSs may play an important role in feelings of belonging among boys. For example, boys may feel more at ease developing these intimate and caring friendships in an online arena rather than in a FTF setting. However, since this thesis is not investigating the way these sites are used, these suggestions are purely speculative. Further research should therefore aim to address how early adolescents use

SNSs in this way and in particular how this might differ between the two genders. These sites might also help those who are less socially mature, with evidence suggesting that those who are socially anxious prefer the online environment for communication (Oldmeadow et al., 2013; Valkenburg & Peter, 2009b). Future studies should investigate gender differences in the perceived value of SNSs in addition to how they might be used to practise social skills. A particular focus should be on aspects that may be conducive with friendship development (e.g. intimacy) and feelings of belonging (e.g. maintaining and developing relationships that are characterised by caring and concern) among those who are less socially mature than their peers.

The key limitation of the present study is that, due to its cross-sectional nature, it can only offer evidence of associations between SNS use and belonging and between parenting strategies and SNS use. However, the purpose of this study was to examine some of the hypothesised paths in **Error! Reference source not found.** in greater detail using a cross sectional method rather than to provide evidence of causality. In that respect this aim was achieved by providing a study which considered a wider age range of children, examining possible age and gender effects and by examining the intensity of usage as well as comparing children who use SNSs and those who do not.

The current study has provided support for an association between SNS use and belonging for boys between the ages of 9 and 13 years, offering further evidence for the hypothesised pathway in the conceptual model between SNS use and belonging. Since SNS use is prevalent among this younger age group, those boys who use these sites might be gaining friendship benefits in the form of increased feelings of belonging over and above those who do not use these sites or use them less intensively (however, the present study cannot offer evidence to support why this might be). Control was the only parental strategy found to be related to SNS use and this was only found to be related to SNS intensity rather than SNS use/non-use. Thus, only partial support was found for the path between Control and SNS use in **Error! Reference source not found.** This study has provided further insight into the hypothesised relationships between parenting strategies, SNS use and feelings of belonging by demonstrating associations between (i) levels of control and SNS intensity and (ii) SNS intensity and feelings of belonging for boys. Further studies should however examine the relationships between parenting strategies and SNS use from the perspective of parents to gain a different view point of this hypothesised relationship. In addition, further evidence of a relationship between SNS use and belonging might be

found when examining the device used to access the SNS. The next two chapters aim to address these points.

Chapter 6. The Martini Effect of Social Networking Sites⁴ (Study 3)

6.1. Introduction

The first study examined part of the conceptual model from the perspective of children and the second study examined hypotheses 7, 8 and 9 in more detail by looking at gender and age effects as well as the intensity of usage of the SNS. The present study aims to examine one specific part of the conceptual model (see Figure 13), namely hypothesis 9. Its aim is to examine this hypothesis in more depth by considering the device used to access SNSs. Specifically, it examines the relationship between using a mobile device to access SNSs (versus using a fixed device) and feelings of belonging to the friendship group.

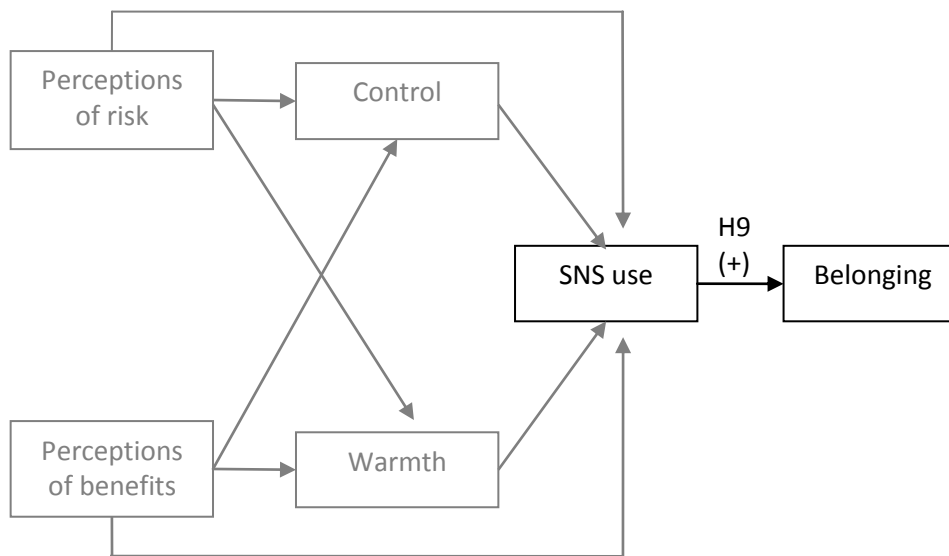


Figure 13 Figure showing the section of the conceptual model to be tested in the present chapter. The relationships shown by solid black lines are tested in the present study (hypothesis 9).

⁴ The results of this study are published in a peer reviewed journal: Quinn & Oldmeadow (2013). The Martini Effect and Social Networking Sites: Early Adolescents, Mobile Social Networking and Connectedness to Friends. *Mobile Media and Communication*, 1(2), 237-247.

In the 1980s, the advertising slogan of the beverage 'Martini' was 'Anytime, Anyplace, Anywhere.' With the advances in mobile device technology, people are now able to connect to others almost 'anytime anyplace anywhere' and thus there may be important psychological effects of this potential perpetual contact with others. I refer to this as 'The Martini Effect'. There are many ways in which 9-13 year olds can access their SNSs, from a fixed PC, laptop or a mobile device such as a mobile phone or tablet. Using a mobile device compared to a fixed device offers SNS users with greater opportunities to log on to and use their SNSs. They are able to check their SNS or post status updates while 'on-the-go'. Using a mobile phone to contact others has been shown to result in feelings of constant connectedness (Walsh et al., 2009). Using this literature on mobile phone use and connectedness with others as a basis, it is reasonable to predict that using a mobile device to access a SNS (versus using a fixed device) may result in higher levels of feelings of belonging. The study presented in this chapter aimed to test this.

6.1.1. Mobile connection to others

Mobile devices, particularly mobile phones are ubiquitous in today's society. The increased use of these devices have resulted in them becoming "attached to the body like watches" (Castells, Fernandez-Ardevol, Qiu, & Sey, 2007. p.77). To date, the majority of research on the social effects of young people's use of mobile devices has concentrated on the mobile phone specifically. Mobile phone ownership is important to young people, enhancing social connection (Wei & Lo, 2006) and enabling them to contact their friends frequently while providing privacy (Davie, Panting, & Charlton, 2004). Moreover, in research with teens, mobile phone use has been seen to enable group interactions allowing them to be accessible at any time of the day (Ling, 2004). Being able to contact friends anytime, anyplace and anywhere has links with interpersonal connectedness. For example, Walsh et al., (2009) report in a qualitative study that having use of a mobile phone results in feelings of connection to others and enhanced feelings of belonging. The importance of mobile connection can also be seen in times of limited access to the device. For example, young mobile phone users report feelings of disconnection, loneliness, isolation and frustration when mobile phone use is not available (Blair & Fletcher, 2011; Castells et al., 2007; Skierkowski & Wood, 2012; Walsh, White, & Young, 2008, 2010). In addition, non ownership of a mobile phone has been linked with feelings of exclusion (Charlton et al., 2002; Smith & Williams, 2004). This research on mobile phone use would therefore suggest that the mobile connection it offers to its users may be important in terms of feelings of belonging and connectedness to others.

There are other mobile devices as well as the mobile phone which now offer internet access. Access to SNSs is therefore now available while 'on-the-go', offering mobile access to numerous people.

6.1.2. Social Networking Sites, Mobile Connectivity and Belonging

Mobile devices such as 3rd Generation (3G) mobile phones, tablets and other hand held devices offer SNS users connection to friends while 'on the go'. This function seems to be particularly attractive to adolescents with adolescents having a "strong desire to connect with peers anywhere, anytime" (Livingstone & Brake, 2010, p.76). As discussed in section 6.1.1, the ability to interact with others through a mobile phone can help to increase feelings of connectedness and belonging and thus may also relate to using a mobile device to access a SNS. Moreover, using a mobile device to access a SNS may also enable greater or different usage of the SNS. The content on SNSs is user generated and a sizeable amount of user generated content is uploaded onto these sorts of sites with the use of mobile devices (Lugano, 2008). Mobile SNS users may therefore be more likely to carry out SNS behaviours such as posting photographs (which have been taken by the mobile device) and/or 'check-in' (a function which uses the GPS facility on a mobile device to allow the user to post content related to their location). These features may arguably help to build bonds with friends as more personal information is being shared with them via the SNS. Moreover, there is some evidence that Facebook use is related to the 'fear of missing out' (Przybylski, Murayama, DeHaan, & Gladwell, 2013). That is, the fear that one is missing out on interactions with friends or is missing out on 'insider' information about others (Przybylski et al., 2013). Those who use mobile devices to access sites like Facebook may be more likely to be involved in interactions via SNSs or to have knowledge of content posted on the site since they can access the site virtually 24 hours a day. This constant 'being in the loop' may allow mobile SNS users to feel more included and to help heighten feelings of belonging. In terms of hypothesis 9 of the conceptual model and in light of the research on mobile communication, the following is predicted:

H9b – SNS users who use mobile devices will report higher levels of belonging than SNS users who use a fixed device

Arguably, children who use mobile devices to access their SNS profile have the potential to use these sites more frequently and therefore to be involved in more frequent contact (albeit online) with friends. Since research has found a positive relationship

between increased use of the internet to communicate and closeness to friends (Valkenburg & Peter, 2007), the following is predicted:

H9c – Frequency of use will mediate the relationship between SNS mobile use and feelings of belonging.

Mobile connection has not been quantitatively explored among early adolescents in terms of its relationship with face to face communication with friends. In a qualitative study involving early adolescents, Blair and Fletcher (2011) found that mobile phone contact with friends resulted in the ability to arrange offline meetings conveniently. Moreover, online communication has been found to be positively related to the amount of time spent with friends offline (Kraut et al., 2002). It may therefore be reasonable to suggest that mobile SNS use facilitates frequent face to face contact, increasing feelings of belonging to the friendship group. The following is therefore predicted:

H9d – FTF communication will mediate the relationship between SNS mobile use and feelings of belonging

6.2. Method

6.2.1. Participants

542 early adolescents (11-13 years; $M = 12.12$, $SD = 0.75$) from the North of England were surveyed (51.48% boys). 301 of these participants were from Study 2 (Chapter 5) and the remainder were from the first stage of the longitudinal study (Chapter 4). Participants were asked whether they used SNSs to contact their friends from their main friendship group at school. Of these children, 337 children (62.18%) reported using one or more SNS profile for this purpose. Girls (68.32%) were significantly more likely to use SNSs for this purpose than boys (56.47%, $p = .005$) and children who used a SNS to contact their friends were significantly older than those who did not use a SNS (users $M = 12.28$, $SD = 0.73$; non-users $M = 11.85$, $SD = 0.72$, $p < .001$). This sample of 337 children (46.73% boys; age $M = 12.28$ years, $SD = 0.73$) was therefore the final sample for the present study.

6.2.2. Procedure

Adult consent was obtained for all participants. Each participant completed a questionnaire in school in a classroom environment supervised by either their teachers or the researcher.

6.2.3. Measures

Participants were asked to indicate whether or not they used any mobile device to access their SNS when contacting their friends (examples were provided such as mobile phone, iPod). Participants were categorised as mobile device users or non-mobile device users based on their response to this question.

The measures used in this study are presented in Table 17, together with the mean, standard deviation and reliability alpha for each measure. Again, all 10 items of the belonging measure were retained due to a high alpha value.

Table 17

Mean score, standard deviation and reliability alpha of each measure used

Measure	Cronbach's α	Mean (SD)
Belonging	.85	4.36 (0.53)
Frequency of SNS use (standardised value)	.72	0.03 (0.78)
Face to face contact	.82	3.85 (1.23)

6.3. Results

6.3.1. Use of mobile devices for SNS use

Of the final sample, 226 (67.06%) reported using one or more mobile device to access their SNS profile to contact their friends from their main friendship group. A significant gender difference was found with more girl SNS users (72.63%) reporting using a mobile device compared to boy SNS users (60.51%), $\chi^2(1) = 5.55, p = .018$. There was also a significant effect of age with mobile device users ($M = 12.38$ years, $SD = 0.69$) being significantly older than non- mobile device users ($M = 12.06$ years, $SD = 0.76$), $t(325) = -3.87, p < .001$.

6.3.2. Differences in belonging between mobile device users and non-mobile device users (RQ1)

A bootstrapped moderated hierarchical regression was run to test for differences in levels of belonging. In the first step, age, mobile device user/non-user (non-user= 0) and gender (boy =0) were entered as single predictors. The second step included the two way interactions of these variables and the third step included the three way interaction of all variables. Age was centred before carrying out the regression analysis (Howell, 2002). Table 18 shows the beta values and significance values of each step of this regression. The first step was the only significant model, $F(3,318) = 3.56, p = .015, R^2 = .03$. Adding interaction terms to the model (steps 2 and 3) did not significantly increase the R^2 value. This shows that those who used a mobile device had significantly higher levels of belonging than those who did not use a mobile device, even when age, gender and the interaction terms were controlled.

Table 18

Coefficients and significance values of a regression model where gender, age, mobile user group and their interaction terms are regressed onto belonging

		R^2 change	Bootstrapped			
			Beta	SE	P	b
Step 1		Gender (boys= 0)	0.02	.06	.762	.02
		Age (centred)	-0.07	.04	.057	-.10
		Mobile user group (non-user = 0)	0.19	.07	.003	.17
Step 2	.003	Gender (boys= 0)	0.05	.12	.699	.04
		Age (centred)	-0.02	.07	.744	-.03
		Mobile user group (non-user = 0)	0.20	.09	.024	.18
		Age x gender	0.01	.08	.889	.01
		Age x mobile user group	-0.10	.08	.244	-.10
		Mobile user group x gender	-0.04	.13	.745	-.04
Step 3	<.001	Gender (boys= 0)	0.04	.12	.724	.04
		Age (centred)	-0.01	.08	.896	-.02
		Mobile user group (non-user = 0)	0.20	.09	.025	.18
		Age x gender	-0.01	.13	.942	-.01
		Age x mobile user group	-0.11	.11	.321	-.11
		Mobile user group x gender	-0.04	.14	.763	-.04
		Age x mobile user group x gender	0.03	.16	.842	.03
Total $R^2 = .04$						

6.3.3. Frequency of use (RQ2)

A bootstrapped mediation analysis (Preacher & Hayes, 2004) was carried out to test the mediating effect of frequency of use. A significant model was found, $F(2,289) = 9.32$, $p < .001$, $R^2 = .06$. Figure 16 shows the coefficients and significance values of this model. Frequency of SNS use was found to be a significant mediator of the relationship between using a mobile device and belonging. The direct effect of mobile device use/non-use on belonging was reduced (to $b = .14$) but remained significant (see Figure 14) suggesting that the relationship was only partially mediated by frequency of use.

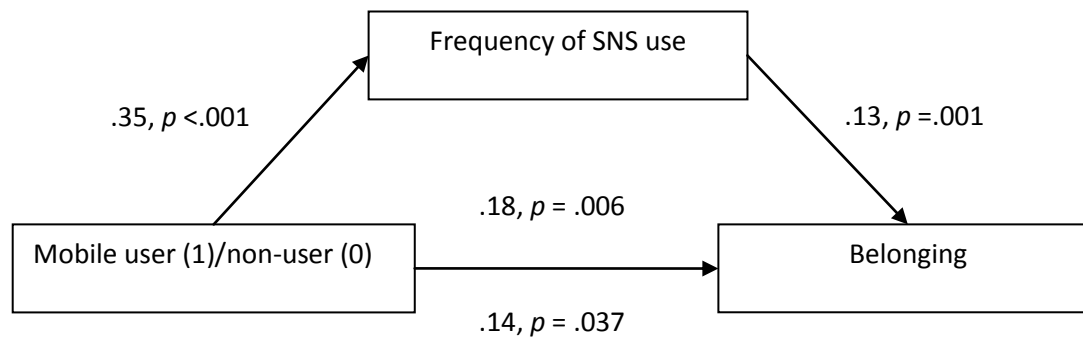


Figure 14 Mediation model where frequency of SNS use partially mediates the relationship between mobile use/non-use and belonging

6.3.4. Face to face contact (RQ3)

To test whether face to face contact plays a mediating role, a bootstrapped mediation analysis was conducted. Mobile device use was not found to be related to face to face contact ($b = .13$, $p = .357$). The direct relationship between mobile device use and belonging was reduced slightly ($b = .16$ to $b = .14$) and remained significant ($p = .009$) thus suggesting that face to face contact did not mediate the relationship between mobile device use and feelings of belonging.

6.4. Discussion

The aim of the present study was to further investigate the hypothesised path between SNS use and belonging shown in **Error! Reference source not found.** by examining differences in feelings of belonging between SNS users who used a mobile device and those who did not. It was found that mobile device SNS users had significantly higher levels of

belonging compared to non-mobile device SNS users and that this relationship was partially mediated by frequency of use of SNSs but not by face to face contact.

Adolescents are increasingly using SNSs (Livingstone et al., 2011) and many use mobile devices to do so. In the present study, it was found that 62% of the sample surveyed used a SNS to contact their friends and the majority of these (67%) used a mobile device. Owning a mobile phone has been found to increase feelings of connectedness to others and to be implicated in feelings of belonging (Skierkowski & Wood, 2012; Walsh et al., 2009). The present study offers support for the prediction that mobile SNS use is related to higher levels of belonging. This relationship might be explained by feelings of constant connectedness that having a mobile device offers (as reported in mobile phone studies, e.g. Walsh et al., 2009). However, since the present study did not directly measure feelings of connectedness, this is speculative. Future studies should aim to test how feelings of connectedness 'anytime, anyplace, anywhere' plays a role in the relationship between mobile SNS use and feelings of belonging.

Although Blair and Fletcher (2011) report that mobile phone use was related to increased face to face contact, the present study did not find that mobile device SNS users spent more time face to face with their friends than those who did not use a mobile device. Blair and Fletcher report that having a mobile phone allowed children to text or ring their friends to arrange immediate face to face contact. SNSs do not necessarily offer this instant communication and therefore may not be used for this purpose (see section 8.3.1 for further discussion on the way in which SNSs might be used and how this could further our understanding of the relationship between SNS use and belonging).

Valkenburg and Peter (2007) reported that those who communicated with their friends online more frequently felt closer to their friends. Moreover, Study 2 found that for boys, SNS intensity was positively related to feelings of belonging. The present study found that mobile device users contacted their friends via their SNS more frequently than those who did not use a mobile device which in turn was positively related to feelings of belonging. However, this mediating relationship was only partial and the direct relationship between mobile device use and feelings of belonging still requires an explanation. It is possible that just knowing one has a device which potentially provides constant communication to others (via a SNS) also offers feelings of belonging to the friendship group, irrespective of the frequency of use. For example, mobile SNS users may experience

the 'fear of missing out' to a lesser degree than non-mobile users since they can log on wherever and whenever they choose (within reason) to keep up to date with what their friends are posting on the site. Knowing that one has the potential to be able to check comments on others' or own content or that one can potentially be constantly be kept up to date may aid in feelings of belonging. Further studies examining the effect of mobile SNS use should therefore aim to measure 'fear of missing out' and also the notion of connectedness. For example, SNS users could be asked about whether they have a need to be in contact with others 24/7 and the extent of this need. Furthermore, the relationship between this need, frequency of use and psychological outcomes such as belonging could be investigated.

There may be underlying psychological processes which aid this feeling of belonging when having a mobile device. This therefore has implications for the relationship an adolescent has with both their mobile device and the SNS itself and may be related to underlying psychological mechanisms which have not been addressed in this study. Mobile device use may encompass cognitive and behavioural aspects which have not been captured in the present study. For example, Walsh et al (2010) suggest that mobile phone users have cognitive associations with their phone, often thinking about their phone when access to the phone is restricted. The extent to which this happens implies the magnitude of the user's cognitive attachment to the device. In addition, Walsh et al suggest that the behavioural attachment to the phone can be seen by, for example, the extent to which a person checks their phone for messages or missed calls. It is therefore possible that the direct relationship between using a mobile device to access a SNS and feelings of belonging may be mediated by possible attachments the user has to their mobile device. For example, the mobile SNS user may constantly be thinking about when they can next log on to their SNS to check if someone has commented on a photograph or when they can post their next update on what they have been doing. Further studies should investigate the relationship early adolescents have with their mobile device, in particular the cognitive and behavioural attachments they may have to it and to the SNSs.

The present study cannot however offer conclusive evidence of causality. Increased connectedness might potentially influence mobile device use rather than vice versa. For example, those who have a high sense of belonging to the group might be motivated to connect with the group more frequently, using mobile devices to achieve this. In addition, other variables such as sociability might play a role in the relationship between mobile SNS

use and feelings of connectedness. Sociable individuals are more likely to seek out situations which offer interactions with others (Buss & Plomin, 1984, see section 4.1.2 for more information on this) and since mobile devices can offer increased interactions, highly sociable individuals might be more likely to use a mobile device to access their SNS. Thus sociability might play a role in the relationship between mobile device use and belonging. However, it should also be considered that although sociability and belonging are two distinct concepts, they are also related (Leary & Kelly, 2009) and thus it may be difficult to establish the influence each has on mobile SNS use. Moreover, Baumeister and Leary (1995) propose that people are more likely to revisit environments that fulfil their belonging needs. Thus, the relationship between mobile SNS use and belonging may be cyclical and future studies should aim to test this.

In summary, the present study aimed to investigate hypothesis 9 in greater depth. It provides evidence that The Martini Effect may be implicated in the use of mobile devices to access SNSs and feelings of belonging. Using SNSs via a mobile device was found to be related to higher levels of belonging and was partially mediated by frequency of use. Suggestions have been made for possible reasons for this relationship such as mobile device users potentially being always connected to these sites and thus friends. The increased feelings of belonging among mobile SNS users may be related to cognitive and behavioural attachments users have with their mobile device as well as the 'fear of missing out' and/or the need to be connected 24/7. This study cannot however offer evidence of why this relationship was found. Thus, future studies should consider exploring these additional aspects which have not been covered in this study but which might help to understand the relationships found in the present chapter.

Chapter 7. Internet Parenting and Perceptions of SNSs. The Perspective of Parents (Study 4)

“I used to go on Moshi Monsters and Club Penguin when I was little. This was before my mum heard and went to a meeting about internet safety”

Girl aged 11 years

7.1. Introduction

The previous studies have examined the conceptual model from the perspective of children and have therefore focussed on those parts of the model which can be reported by children (hypotheses 7, 8 and 9). The evidence from these chapters concerning the link between parental strategies and SNS use is mixed. Studies 1 and 2 found no link between either (i) control and SNS use/non-use or (ii) warmth and SNS use/non-use. However, Study 2 found a link between control and SNS intensity (but no link between warmth and SNS intensity). It is important to also gain information on the relationship between these strategies and SNS use from the perspective of parents since it is common for there to be a discrepancy between child and parent reports of internet parenting levels (see discussion in section 2.4.4 and Livingstone & Bober, 2006; Rosen et al., 2008; Wang et al., 2005). As discussed in the methodology chapter, an initial aim of this thesis was to gain data from children and their parents to enable direct comparisons to be made. This would have enabled all paths in the conceptual model to be tested together. However, this was not possible due to a very small sample of parents of child participants completing the consent form and questionnaire. This chapter therefore presents the results of data collected from this small sample of parents together with a general sample of parents who have children aged between 9 and 13 years. It focuses on the part of the conceptual model as detailed in Figure 15, testing Hypotheses 1 through to 8 from the perspective of parents.

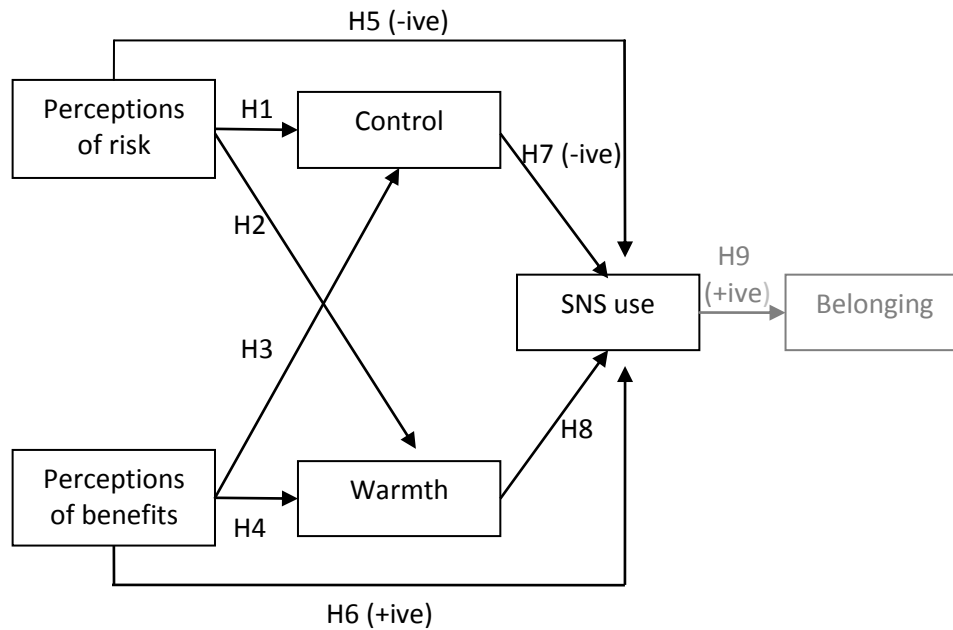


Figure 15 The part of the conceptual model to be tested in the current study, hypothesising relationships between parental perceptions of SNSs (risks and benefits), internet parenting strategies, child use of SNSs and child feelings of belonging.

Specifically, the present study tests the hypothesised relationships between parental perceptions of SNSs (both risks and benefits), parenting strategies (control and warmth) and SNS use of the child. In addition to these predictions, hypothesised relationships in terms of the gender and age of the child will also be added to the model. Firstly, based on previous research and the data presented in previous chapters, age is hypothesised to be positively related to SNS use. Secondly, based on previous research presented in Chapter 2, age is hypothesised to be negatively related to parenting strategies (both control and warmth). Thirdly, based on some research reporting on relationships between age and parental perceptions of media (see section 2.4.4), age is predicted to be negatively related to perceptions of risk. In the literature, there is some suggestion that girls are more likely than boys to use the communicative aspects of the internet (McQuillan & D’Haenens, 2009). However, McQuillan and D’Haenens also note that this gender difference may be diminishing. This inconsistency is echoed in the studies presented thus far. Studies 1 and 3 presented evidence that girls were more likely than boys to use SNSs whereas Study 2 found no gender differences in SNS. Due to the possibility that gender may be related to SNS use, a pathway from gender to SNS use was added to the model.

However, no direction was predicted. This final model (see Figure 16) was tested using SEM.

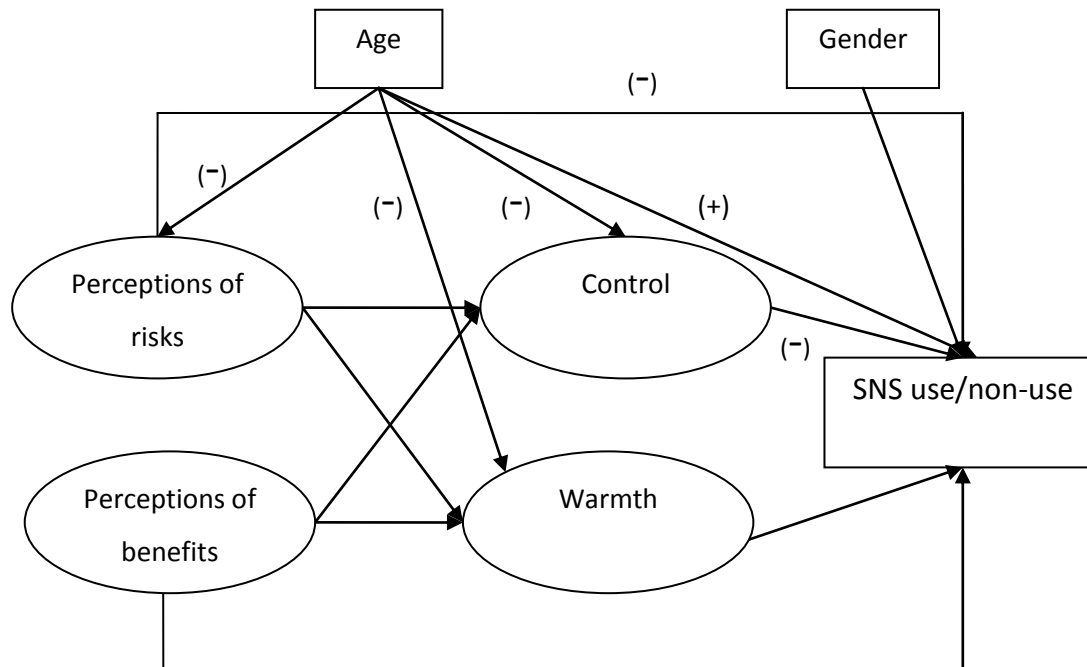


Figure 16 Hypothesised model of relationships between parental perceptions of SNSs, internet parenting strategies and SNS use. The labelled paths (either '+' or '-') denote the hypothesised direction between the two variables. No direction is predicted with all other paths.

7.2. Method

7.2.1. Participants

Five primary schools and two secondary schools were contacted and parents of children aged 9 – 13 years were invited to take part in the study (see section 3.2 for details of the data collection dates). It is acknowledged that this process of recruiting participants may not result in a representative sample since those parents who are less likely to be engaged in their child's internet behaviours may be less likely to take part in research concerning children's use of SNSs. However, this could not be avoided. In total, 222 parents (91.82% mothers; 45.10% parents of boys) completed the questionnaire. The mean age of the children of this sample of parents was 11.14 years ($SD = 1.07$)

7.2.2. Measures

Parents were provided with a questionnaire which included measures of perceptions of risks and benefits of SNSs and control and warmth strategies. It also asked them to report whether their child had a profile on a SNS. Since parents may not know whether their child uses their SNS specifically to contact friends from school, the response to whether a child had a SNS profile was used as the SNS use/non-use variable in the model.

7.2.2.1. Measurement model testing

Each of the latent variables were subjected to measurement model testing. Table 19 shows the final fit statistics for each of these measures together with the number of correlation of error terms. Below is a description of each measurement test.

7.2.2.1.1. Perceptions of benefits

The data for perceptions of benefits were found to be non-normal and thus the bootstrapping process was used and the Bollen-Stine value taken as the p value (Byrne, 2001). The initial model including 16 items did not show an acceptable fit to the data, $\chi^2(88)=392.30$, $p_{BS} < .001$, CFI = .86, RMSEA = .14. Further investigation showed that the error terms of items 5, 6 and 9 co-varied to an unacceptable level with at least one other error term (i.e. standardised residual covariances were >2.58 , see Byrne, 2001). In addition, items 5 and 6 showed evidence of multicollinearity ($r = .83$). These three items were therefore removed from this measure. The final model with these items removed showed an acceptable fit to the data (see Table 19)

7.2.2.1.2. Perceptions of risks

The initial model including 14 items did not show an acceptable fit to the data, $\chi^2(72)=591.62$, $p < .001$, CFI = .73, RMSEA = .20. Further investigation showed that the error terms of items 3, 9, 10, 12, 13 and 14 co-varied to an unacceptable level with at least one other error term (>2.58 ; Byrne, 2001). These items were therefore removed from the model and the model tested again. This model showed an acceptable fit (see Table 19)

7.2.2.1.3. Control strategies

As with the model testing shown in Study 1, the control measure was item parcelled into 'Supervision', 'Stopping internet usage' and 'Internet usage rules'. The model showed an acceptable fit (see Table 19)

7.2.2.1.4. Warmth strategies

Again, this measure was tested using the item parcel procedure and was parcelled into ‘Communication’ and ‘Support’. This model showed an acceptable fit (see Table 19).

Table 19

Summary of measurement models showing final number of parameters, correlations of error terms and goodness of fit indices

Measure	Number of parameters in final measurement	Number of correlations between error terms	Chi Square			CFI	RMSEA
			χ^2	df	p		
Risks	8	5	21.15	15	.13	.99	.04
Benefits	13	16	69.45	49	.43 _{BS}	.99	.04
Control ^a	3	0	0	0	-	1.00	-
Warmth ^a	2	0	0	0	-	1.00	-

^a since the degrees of freedom in these models were zero, the Chi square statistic and RMSEA statistic were unable to be calculated. Models with zero degrees of freedom are deemed ‘just identified’ but still acceptable (Kline, 2011).

BS represents the Bollen-Stine significance value (Byrne, 2001)

7.2.3. Procedure

Parents either completed a paper version of the questionnaire or completed it online according to their preference. In both instances, the questionnaire was completed in the parents’ own time and either posted back to the researcher (paper copy) or submitted online.

7.3. Results

7.3.1. SNS use

Of the sample of 222 parents, only one parent reported that they did not know whether or not their child had a SNS profile on any of the listed sites. 69.82% of parents reported that their child had a profile on a SNS. Children who were reported to have a SNS profile ($M = 11.24$ years, $SD = 1.05$) were significantly older than those who did not ($M =$

10.93 years, $SD = 1.06$), $t(219) = -2.04$, $p = .043$, $r = .14$. There were no significant gender differences in terms of SNS usage ($\chi^2(1) = 3.41$, $p = .065$; 75.00% of girls and 63.04% of boys had a SNS profile). Table 20 shows that Facebook was the most popular site. However, half of parents reported that their child had a profile on Club Penguin.

Table 20

Percentage of parents reporting that their child has a profile on a SNS

SNS	% of parents reporting their child has a profile
Facebook	57.49%
Beebo	0%
Twitter	14.84%
MySpace	0.87%
Club Penguin	50.00%
StarDoll	5.13%
Moshi Monsters	33.89%
Habbo	0.87%
Neopets	0.87%
Poptropica	1.75%
Other	9.48%

Of the 67 parents who reported that their child did not have a SNS profile, 32 answered the open ended question ‘*Tell us why your child does not use Social Networking Sites.*’ The responses were analysed and four themes identified. Table 21 shows that the top reason parents provided for their child not using SNS was that they did not allow their child to use them. This however may be linked to the age requirements of some SNSs (e.g. Facebook) since this reason was also provided in many of the responses that contained the theme ‘parental restrictions’.

Table 21

Themes identified and the corresponding percentage of responses to the question ‘Tell us why your child does not use SNSs’

Theme	% of responses
Parental restrictions	40.63%
Age restrictions	37.50%
Child’s disinterest	37.50%
Child uses other methods to contact friends	12.50%

Note: Some responses contained more than one theme and thus these responses are not mutually exclusive

7.3.2. Testing the model

The data of 36 parents were not able to be used in the SEM analyses due to excessive missing data (i.e. at least one measure was not completed). The parents whose data were removed were compared with those whose data were retained for the SEM analysis. The children of those parents whose data were removed were significantly older than those whose data were retained (see Table 222). There were no significant differences in terms of perceptions of benefits and risks or in terms of levels of control or warmth. In addition, there were no significant child gender differences between the two groups of parents nor were there any differences in terms of child SNS user or child SNS non-user (see Table 222 for descriptive and inferential statistics).

Table 22

Descriptive and inferential statistics showing the differences between parents whose data were retained for SEM analysis and those whose data were not retained.

Variable	Mean (SD)/%		t	df	p
	Data retained	Data removed			
Age	10.99 (1.05)	11.94 (0.73)	6.55	64.43	<.001
Benefits	2.71 (0.73)	2.74 (0.75)	0.21	220	.833
Risks	3.65 (0.75)	3.49 (0.54)	-1.18	220	.238

Control	3.67 (0.68)	3.54 (0.70)	-0.97	209	.331
Warmth	3.74 (0.73)	3.84 (0.83)	0.74	215	.461
χ^2					
Gender (of child)	45.95% boys	36.84% boys	0.58	1	.448
SNS profile (of child)	68.82% users	65.39% users	0.55	1	.459

The model outlined in Figure 16 was tested with the final sample of 186 parents using SEM. The model fit did not reach all criteria for an acceptable fit to the data, $\chi^2(343) = 558.64$, $p_{BS} < .001$, CFI = .93, RMSEA = .06. The results showed that the relationship between gender and SNS use was not significant. Since there is some suggestion that gender differences in the use of the communicative aspects of the internet may be becoming smaller, this pathway was removed. The pathways between perceptions of risks and both control and warmth (hypotheses 1 and 2) were also found to be not significant. Since the literature on the relationships between perceptions of the internet and internet parenting strategies is not consistent, these pathways were also removed. However, modification indices showed that adding a pathway between gender and perceptions of risks would improve the model. This path was therefore added to the model. The model was tested again once these amendments had been made (see appendix x for the standardised coefficients, standard errors and significance values of the model before these paths were removed). This second model did not meet the criteria for an acceptable fit in terms of the Chi Square statistic ($\chi^2(345) = 555.15$, $p_{BS} < .001$). However, the CFI and RMSEA indexes showed an acceptable fit to the data, CFI = .93, RMSEA = .05. The hypothesised model was therefore accepted as an acceptable fit to the data, explaining 16% of the variance in child SNS use/non-use. Figure 17 shows the coefficients of the significant paths found in this model (the dotted lines represent non-significant paths – see Table 23 for coefficients, standard errors and significance values of all paths in the final model). This model shows that parental perceptions of benefits have a positive relationship with levels of warmth strategies and with SNS use/non-use of the child. Levels of control strategies are negatively related to SNS use. Age is negatively related to control and warmth and gender is negatively

related to risk (meaning parents of girls are more likely to perceive SNSs as less risky than parents of boys).

Table 23

Standardised coefficients, standard errors and significance values of the final model shown in Figure 17

Predictor	Predicted	Bootstrapped		
		<i>b</i>	<i>SE</i>	<i>p</i>
Gender →	Risk	-.16	.06	.009
Age →	Control	-.12	.04	.009
Age →	Warmth	-.22	.05	<.001
Age →	Risks	.01	.03	.856
Risks →	SNS use	-.05	.09	.576
Benefits →	Control	-.07	.06	.201
Benefits →	Warmth	.25	.08	.001
Benefits →	SNS use	.13	.04	.002
Control →	SNS use	-.32	.08	<.001
Warmth →	SNS use	.02	.03	.498

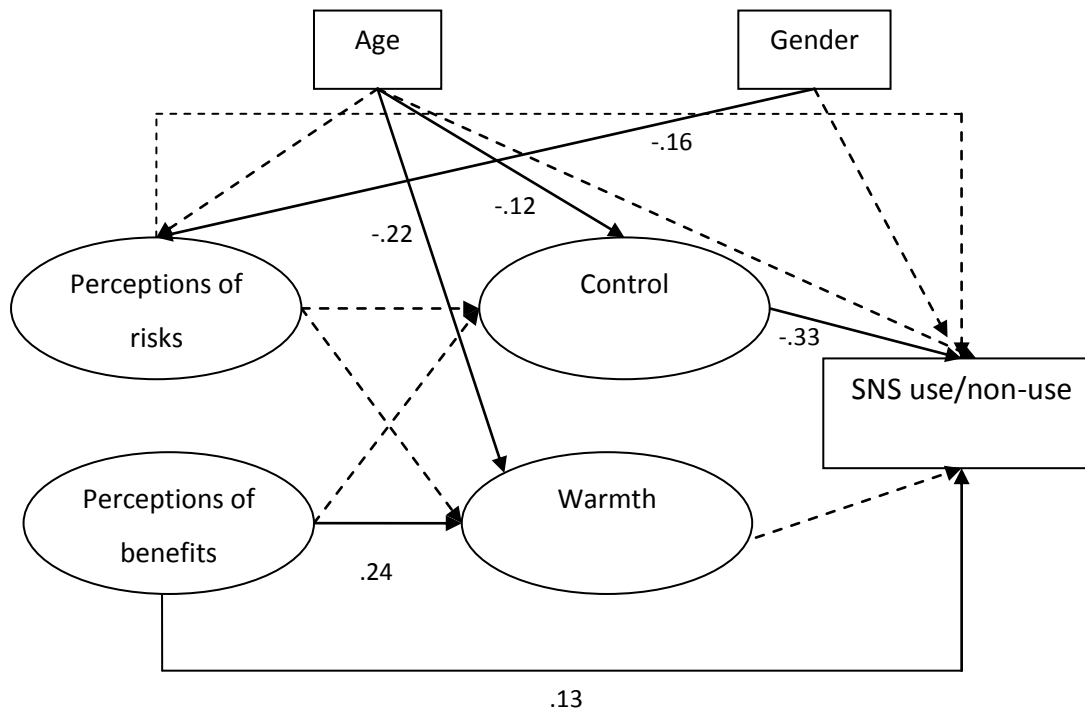


Figure 17 Section of the conceptual model (see Figure 3) to be tested with a parent sample

7.4. Discussion

The main aim of this study was to test the first part of the conceptual model while taking into account possible relationships concerning gender and age of the child. Consistent with previous research, internet parenting was found to decrease with age. Age was not however related to SNS use within the present sample. Gender was only found to be related to perceptions of risk showing that parents of girls were more likely to report lower perceptions of risk of SNS than parents of boys.

In terms of the main hypothesised pathways of the conceptual model, partial support was found for the predicted relationships between levels of internet parenting and SNS use. Specifically hypothesis 7 was supported showing that higher levels of control were related to non-use of SNSs, even when age was controlled for. The parents whose child does not use SNSs reported enforcing greater rules on their child's internet use and to supervise their child's internet use to a greater extent than those whose child is a SNS user. This idea that parental control relates to SNS use is also supported by the responses to the open ended question asking parents why their child does not have a SNS profile. The largest percentage of parents reported that their child did not use SNSs because they did not allow them to. This evidence supports the suggestion made by Livingstone and Helsper (2008)

that high levels of parental control may restrict children's access to online social interactions with friends.

Warmth was not found to be related to SNS use however (although it was found that levels of warmth decreased with age). Thus, parents use similar levels of warmth strategies regardless of whether their child uses SNSs or not. This relationship might be unique in terms of the sampling process. As pointed out in section 7.2.1, parents who agree to take part in research about their child's use of the internet may be more likely to be involved in their child's internet use. This higher level of involvement is arguably similar to the level of warmth strategies and thus the type of parents who made up the present sample might account for the lack of evidence of a relationship between warmth and SNS use. The model should therefore be tested with a wider range of participants in future research.

The testing of the model also showed that lower levels of perceptions of benefits were related to non-use of SNSs, showing support for hypothesis 6. The children of those parents who saw SNSs as offering little benefit were more likely to be SNS non-users. It is possible that in order to appreciate that these sites can offer benefits to children (e.g. becoming closer to friends, Valkenburg & Peter, 2007), parents may need to observe their child gaining these benefits. Until their child starts using these sites, parents may perceive these sites to have little benefit. This may be one reason why some parents do not allow their child to use these sites since they perceive them to have little benefit to their child. However, this interpretation comes with the caveat that no direction of causality was able to be identified in the present study. It is possible that parents of users responded to perceptions of benefits in a positive way as to provide a justification for allowing their child to use these sorts of sites at this age, particularly since sites such as Facebook instil a minimum age restriction of 13 years and the majority of the children in the present sample were under this age. However, if this were true, one would also expect to find lower levels of perceptions of risks among parents of SNS users and this was not the case

Previous research on other forms of media shows that having negative attitudes about that form of media may be associated with higher levels of control strategies and with the use of warmth strategies (Nikken et al., 2007; Nikken & Jansz, 2006; van der Voort et al., 1992). The model in the present study showed that there was some relationship between perceptions of SNSs and levels of internet parenting strategies. However, support was not found for the prediction of a relationship between perceptions of risk and

parenting strategies (hypotheses 1 and 2) nor was there any support for the relationship between perceptions of benefits and control strategies (hypothesis 3). The only relationship found was a positive relationship between perceptions of benefits and levels of warmth, showing support for hypothesis 4. Again, there is no evidence of causality but it could be suggested that those parents who are more likely to talk to their child about their online activities are more likely to see how the different social uses of the internet (e.g. SNS use) might offer some benefit to their child. That is, by talking to their child and supporting their child's internet use, parents build a picture of how their child is benefitting from using SNSs, whether these benefits are social benefits such as becoming closer to their friends or increasing their technological skills through the use of these sites. It may however be the case that parents who perceive the internet in general as positive (and not just SNSs) for their child may feel more confident in talking to their child about internet use and supporting their child's online activities. That no other relationships between perceptions of SNSs and levels of strategies were found, opposes that found in previous media research. Previous studies have found either a positive or negative relationship between perceptions of the media and levels of parenting strategies used while the child is using that media (e.g. Nikken et al., 2007; Nikken & Jansz, 2006; Van der Voort et al., 1992). The fact that perceptions of benefits were not found to be related to levels of control in the present study suggests that levels of control may not be affected by these perceptions; parents who see these sites as providing some level of benefit to their child continue to use high levels of control to protect their child (although no attempt was made in the present study to gain evidence of causality). There may therefore be other factors which influence levels of control in particular since neither perceptions of risk or benefits of SNSs were found to be related to control in the present study. There may be certain characteristics of parents who use different levels of strategies. For example, some parents may be less experienced in using the internet. Chapter 2 outlined several factors which have not been measured here that may be associated with levels of parenting strategies. Although it was hoped that some of these factors would be added to the model, it was not possible due to the small number of parents who completed all these measures (see section 3.2). Future studies should therefore aim to collect data on these factors with a larger sample in order to test the model with these factors included.

7.4.1. Limitations

The present study however has limitations. Firstly, as discussed, there is no evidence of causality in the study and therefore there is a need to conduct longitudinal

studies to address possible causal links between perceptions of SNSs, levels of parenting strategies and SNS use of the child. Secondly, the use of SNSs to contact friends was not able to be measured accurately from parental reports and thus SNS use was defined as whether parents reported their child to have a SNS profile or not. This makes it difficult to compare the results presented here to the results presented in the previous chapters where, according to child reports, levels of control were not related to SNS use/non-use. Moreover, it was thought that SNS intensity would not be accurately reported by parents and so the relationship between SNS intensity and levels of parenting strategies was not able to be tested. This again limits the way the results from this study can be compared with those presented in earlier chapters where higher levels of control were found to be related to lower levels of SNS intensity. However, it would be an interesting avenue for future research to compare the reports of parents and their children in terms of SNS intensity in order to explore the degree of convergence between parent and child reports.

7.4.2. Conclusions

The present study found that higher levels of control and lower levels of perceptions of benefits were related to non-use of SNSs suggesting that children whose internet use is governed by a high amount of rules and parental supervision and whose parents see SNSs as offering few benefits to their child are not using SNSs. Perceptions of risks of SNSs were not related to either forms of parenting strategies but perceptions of benefits were found to be related to levels of warmth only. This suggests that parents who view SNSs as offering some level of benefit to their child are more likely to talk to their child about their online use and to support their child's online use. However, further studies are required to test the causal nature of these pathways.

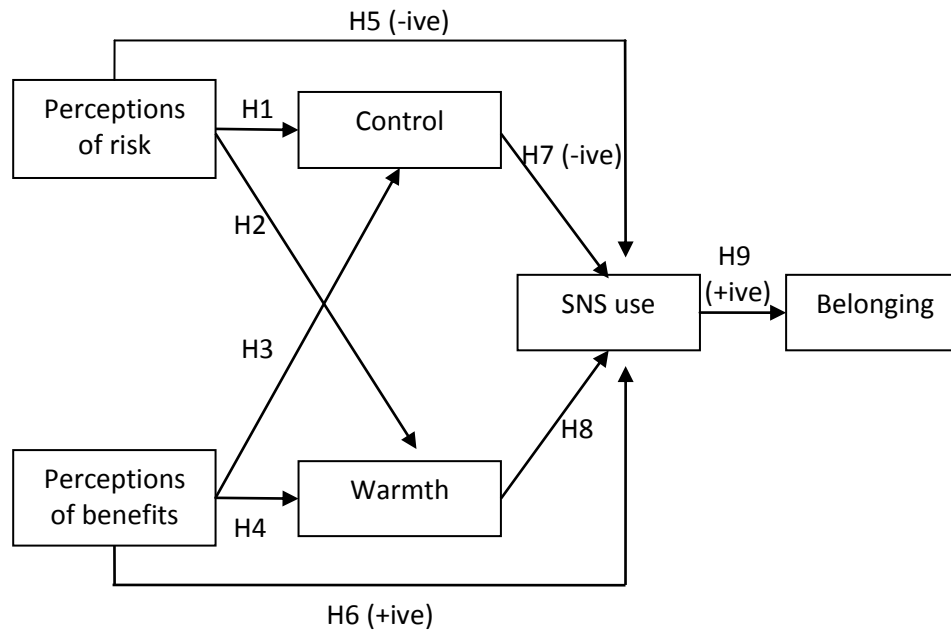
Chapter 8. Discussion

This chapter will provide a summary of the key aims and findings of this thesis and their implications in terms of both theory and application. Directions for future research will be considered in light of the current findings and a theoretical development of the core model. The limitations of this thesis will then be discussed.

8.1. Summary of aims and key findings

Early adolescents are a growing group of SNS users (Oppenheim, 2008) but there is little research on their use of these sites. While most of the research on SNS use among adolescents focuses on the negative aspects (e.g. Mitchell, Finkelhor, Jones, & Wolak, 2010; Rosenblum, 2007; Ybarra & Mitchell, 2008), this thesis focussed on a potentially positive effect of SNS use in relation to belonging. Previous research has found a positive relationship between online communication (instant messaging) and connectedness to others (Valkenburg & Peter, 2007). The current research examined a similar relationship between SNS use and belonging.

The main aim of this thesis was to test a model aimed at addressing the key research question: 'Are internet parenting strategies inadvertently affecting children's feelings of belonging to the friendship group by restricting or prohibiting access to SNSs?' This research question was motivated by two aspects. First it was motivated by suggestions that parental restrictions may reduce positive aspects of online behaviour such as communication with others (Livingstone & Helsper, 2008) and by evidence that there may be relationships between online communication and wellbeing (e.g. Valkenburg & Peter, 2007a). Second, the main aim of this thesis was motivated by the lack of research that looks at these two aspects (i.e. internet parenting and positive effects of online communication) within the context of each other. The empirical chapters tested a proposed model outlined in Figure 2 (see below for a replica of this model) by examining longitudinal data, by exploring age and gender effects as well as investigating SNS use within the context of intensity of usage and the device used. The study chapters also examined this model from the perspective of children (Chapters 4-6) as well as parents (Chapter 7).



Replica of Figure 2 Conceptual model hypothesising relationships between parental perceptions of SNSs (risks and benefits), internet parenting strategies, child use of SNSs and child feelings of belonging.

The findings relating to the hypothesised relationships shown in Figure 2 will now be summarised in turn.

8.1.1. Perceptions of risks and benefits and their relation to internet parenting strategies and SNS use (Hypotheses 1 to 6)

Chapter 7 was the only chapter to test these relationships. Using SEM, it was found that perceptions of benefits were the only perception to be related to parenting strategies and SNS use. Specifically, perceptions of benefits were found to be positively related to warmth strategies (supporting hypothesis 4) and to be positively related to SNS use (supporting hypothesis 6). No evidence was found to support the hypothesised paths between perceptions of risks and parenting strategies (hypotheses 1 and 2) or between perceptions of risk and SNS use (hypothesis 5). Perceptions of benefits were not found to be related to levels of control, showing no support for hypothesis 3. As discussed in Chapter 7, this suggests that parents who perceive SNSs as beneficial to their child are more likely to support their child's use of the internet and to talk to their child about their use of the internet. Moreover, those parents who perceive SNSs as having a high level of benefit to their child may be more likely to allow their child to use these sites (however this conclusion must be made with caution due to the study being cross sectional in nature). These benefits included aspects relating to maintaining relationships with others as well as

developing communication and technological skills. It is possible that parents of non-users may not be aware that these sites have the potential to offer benefits to their child whereas parents of SNS users may experience their child receiving these benefits first hand and therefore perceive these sites to be a generally positive social tool for their child. Interestingly, there were no differences between parents of users and non-users in terms of perceptions of risk. Thus, these perceptions of risk may not be influencing parents' decisions about whether or not their child is permitted to use SNSs. Although some parents see these sites as potentially risky to children, they nonetheless allow their child to use these sites.

8.1.2. Internet parenting and SNS use (Hypotheses 7 and 8)

Some support was found for the hypothesised path between parenting levels of control and SNS use (hypothesis 7) and parenting levels of warmth and SNS use (hypothesis 8). From the perspective of the child, higher levels of control were found to be related to SNS intensity only (supporting hypothesis 7a – see Chapter 5). Further support for hypothesis 7 was found from the perspective of parents. Children of parents who reported higher levels of control were less likely to use SNSs. This finding lends support to the suggestion made by Livingstone and Helsper (2008) that high levels of parental control may restrict online communication with friends. However, although these two findings suggest that higher levels of control are related to non-use or lower usage of SNSs, it must also be considered that the first study (Chapter 4) found no evidence of a relationship either within time points or between time points. Hence the conclusions drawn from the cross sectional data in terms of support for hypothesis 7 must be drawn with caution. It cannot be claimed that higher levels of control directly cause children to not use SNSs or to use them less intensively. The conclusions are limited to claims of an association between the two factors.

Hypothesis 8 predicted a relationship between warmth strategies and SNS use. No evidence was found for this hypothesis, either from parent reports or child reports or from the longitudinal study or the cross sectional studies. Hence, this would suggest that parents use the same levels of warmth strategies regardless of whether or not their child uses SNSs. It was suggested in Chapter 7 that parents who are likely to agree to take part in research relating to their child's internet use may also be more likely to be involved in their child's internet use. This explanation may be adequate in explaining the lack of evidence to support hypothesis 8 from the parent's perspective but not from the child's. The consent

for most of the secondary school sample was taken from a Deputy Head teacher (see section 3.3) and thus the majority of the school year group took part in the research, with the direct consent from their parents. Another explanation is therefore required for the lack of support of this hypothesis in Chapters 4-6. In the UK, schools have been involved in an extensive awareness campaign to help parents manage their child's online behaviours (e.g. the 'Think U Know?' campaign run by the Child Exploitation and Online Protection Centre). The guidance provided by this campaign asserts the importance of communication between parents and their children. Therefore, this strategy of support and communication may be becoming a key way of parenting children online, regardless of their activities.

8.1.3. SNS use and belonging (hypothesis 9)

The studies presented in this thesis demonstrate the extent to which SNSs are used among this younger age group. The percentage of this age group reporting to use these sites ranged from 46% to 70% throughout the studies with usage increasing with age. These figures support those reported by Livingstone, Olafsson, et al., (2011) demonstrating that SNSs are increasingly being used by younger adolescents. Having a profile on these sites may be becoming the norm for this younger age group, particularly during the transition to and first years of secondary school (since SNS use was positively related to age). As was suggested by Rosenblum (2007), using these sites may be seen as a rite of passage; the move to secondary school is synonymous with becoming a SNS user for many early adolescents.

The current investigation revealed some significant relationships between using SNSs to contact friends from the main friendship group and feelings of belonging to this friendship group. As discussed in Chapter 2, friendships become a particularly important part of an early adolescent's life (Steinberg & Silverberg, 1986) as do feelings of belonging (Bornholt, 2000). The data presented in this thesis suggests that during this time, using SNSs may help to achieve a sense of belonging to the friendship group.

Support for hypothesis 9 was found in Chapter 4 where SNS use was significantly and positively related to feelings of belonging at T1. In addition, this chapter found evidence that among those highly shy early adolescents, those who used SNSs to contact friends reported higher levels of belonging than those who did not use SNSs. The reduced cues and asynchronism offered by the online environment may benefit early adolescents

who wish to communicate in this way (Walther, 1996). These features of online communication may enable them to communicate with friends without being concerned about what their voice sounds like or their visual appearance (e.g. if they blush). Hence, this allows them to attend to their belonging needs by providing a safe space where they can interact with their friends. However, the value of SNSs to shy early adolescents was not measured and so this can only be seen as a suggestion based on previous research rather than a conclusion drawn from the evidence presented in this study.

Although the study presented in Chapter 4 showed some interesting results regarding the conceptual model, it could not provide evidence of possible gender effects of this relationship, nor of age effects among 9-13 year olds, nor could it provide evidence regarding the device used. The subsequent chapters aimed to do this and found further evidence in support of hypothesis 9. Chapter 5 investigated hypothesis 9 in more depth. Specifically, it found a significant relationship between SNS use and belonging but among older boys only and a significant positive relationship between SNS intensity and belonging among all boys. No such relationships were found for girls. Chapter 6 investigated hypothesis 9 from the perspective of the device used. Those SNS users who used a mobile device to access SNSs were found to have higher levels of belonging to the friendship group compared to those SNS users who used a fixed device. This relationship was partially mediated by frequency of use. Using mobile devices to access a SNS may therefore provide a psychological feeling of constant connection to friends; SNS users who use a mobile device are potentially never disconnected from their friends (however it should be noted that feelings of connection were not measured and so this is speculation only).

Although the findings discussed above demonstrate positive relationships between SNS use and feelings of belonging, the aim of Chapter 4 was to use a longitudinal design to test causal pathways relating to the conceptual model. A direct causal role for the use of SNSs in feelings of belonging was proposed. It was expected that SNS use at time point one (first year of secondary school) would have a direct positive relationship with feelings of belonging at time point two (second year of secondary school). However, this was not the case. A direct relationship between SNS use and belonging was found but only within the first time point. It may be possible that during this first year of secondary school, using SNSs is an effective way to attend to belonging needs. This therefore limits the extent to which one can draw conclusions from the results presented in Chapter 4 and the subsequent empirical chapters. The conclusions are limited to associations only between the relevant

factors and it cannot be concluded that SNS use directly leads to increased feelings of belonging (see section 8.5.1 for further discussion on the lack of causal evidence). Although the longitudinal study did not offer support for a causal role, it certainly does not negate an indirect effect. For example, there may be factors which play a mediating role in the relationship between SNS use and feelings of belonging. Thus it is important for future research to investigate how these sites are used by early adolescents (this will be discussed further in section 8.3.1).

In summary, hypothesis 9 (hypothesising a positive relationship between SNS use and belonging) has received some support from the studies presented in this thesis, although the causal role of SNS use remains unclear. It is possible that there is an indirect relationship between SNS use and belonging, mediated by factors such as the way in which these sites are used.

8.1.4. Summary of key findings

The key model outlined in Chapter 2 received some support. Perceptions of benefits of SNSs were found to be related to both warmth strategies as well as SNS use suggesting parents who see these sites as beneficial use higher levels of warmth strategies and their child is more likely to use SNSs. The suggestion made by Livingstone and Helsper (2008) that high levels of parental control may diminish communication with friends was supported to some degree. High levels of control were found to be related to SNS non-use as well as lower levels of SNS intensity. SNS use was also found to be related to belonging in some of the studies. In particular, lack of online communication with friends via SNSs was related to lower feelings of belonging to the friendship group. While accepting the lack of causal evidence presented in the thesis, it is still reasonable to suggest that SNSs are becoming a key way in which this younger age group now communicate with friends. Thus parents may need to consider how their levels of parental control may be reducing their child's access to online interactions with friends. Parents may need to consider how this reduced interaction might affect their child's friendships, particularly since there is increasing evidence in support of the stimulation hypothesis; communicating online results in increased connection to others (e.g. Ellison, Steinfield, & Lampe, 2007; Kraut et al., 2002; Valkenburg & Peter, 2007).

8.2. Implications

The findings presented in this thesis have both theoretical and applied implications. These are discussed here.

8.2.1. Theoretical implications

8.2.1.1. Belonging theory

Much of the research that led to belonging theory was either conducted prior to the invention of the internet or does not consider the role of the internet. For example, the review of literature on belonging by Baumeister and Leary (1995) shows that feelings of belonging (or lack thereof) can have effects on cognitive and emotional functioning. However, this review is based on literature that does not consider the online environment. It is therefore necessary to consider the degree to which computer mediated interactions fall within the scope of existing belonging theory and whether a full understanding of them requires theoretical development.

Traditional belonging theory proposes that in order to fulfil belonging needs, we require frequent, positive interactions with others and that these relationships with others should be characterised by stability and reciprocity of caring and concern (Baumeister & Leary, 1995). Belonging theory does not specify that these interactions need to be face to face but assume that interactions consist a two-way process involving a 'message' sent by the sender and acknowledgement of this 'message' by a receiver together with a possible response from the receiver. In terms of belonging theory, all of these elements need to be enacted for interactions to fulfil belonging needs. For example, Baumeister and Leary (1995) discuss how, although people may have caring relationships with others, feelings of belonging are diminished unless these relationships are also characterised by interactions. As Baumeister and Leary point out, "Simply knowing a bond exists may be emotionally reassuring, yet it would not provide full belongingness if one does not interact with the other person" (pp.500-501). Thus, a two way process between two or more people (an interaction) is required for belonging needs to be met.

SNSs such as Facebook however allow an individual to carry out actions that may or may not receive feedback from others and thus may not qualify as 'interaction' in the traditional sense. For example, one can share photographs and post an update without having any responses from online friends. There is some evidence that this act of posting

content alone may have an effect on feelings of connectedness with others. Deters and Mehl (2012) found evidence that, among an adult sample, merely posting updates on Facebook increased a sense of social connectedness with friends. Moreover, this relationship was not affected by the responses or lack of responses (in the form of comments left) from Facebook friends. This suggests that, in terms of online communication, interaction in the traditional sense is not necessary for belonging. Deters and Mehl speculate that by posting an update, an individual may be reminding themselves of the social connections they have with others and this may help to strengthen a sense of social connection and weaken feelings of loneliness. Study 3 found that using a mobile device was related to an increase in feelings of belonging, irrespective of frequency of use. Thus, just knowing one has the potential to be connected at any time may be sufficient to increase feelings of belonging, irrespective of interactions.

Clearly, there is a need for research to examine the degree to which various SNS activities contribute towards feelings of belonging or social connection. Specifically, evidence could be provided for whether offline interactions that aid towards belonging are qualitatively different to online interactions or activities that aid towards belonging. This research may further our understanding of belonging theory and what components (both online and offline) are sufficient to evoke feelings of connection to others. Of particular interest would be whether interactions are required at all in a virtual social environment.

The discussion above suggests that interactions may not be needed to enable belonging needs to be met through the use of SNSs and thus may enable further development of belonging theory. However, the way these sites are used to fulfil belonging needs and thus enhance our understanding of belonging theory may also encompass attending to one's relational value. Relational value refers to the degree to which an individual is perceived as a valuable person to spend time with and/or build a relationship with. When an individual perceives their own relational value to be low, they do not feel as accepted as when they perceive their relational value to be high (Leary, 2010). It is important to note that relational value is never achieved; it requires constant monitoring and changing if necessary (Leary & Allen, 2011). Specifically in relations to groups, individuals will promote their own relational value if they wish to be accepted as a group member. Leary and Allen (2011) suggest that maximising one's relational value can be achieved by promoting four attributes: likeability, competence/success, supportiveness and attractiveness. Attending to these aspects allows the maintenance of one's relational value.

Previous research has shown that communicating online with an unknown person following an exclusion task (Cyberball – see section 2.3) can increase perceived relational value (Gross, 2009). However, there is little known about the mechanisms through which the online environment might help to increase such things as perceived relational value (i.e. through offering opportunities to promote the four attributes associated with relational value - supportiveness, likeability, competence/success and attractiveness). Belonging theory might therefore benefit from exploring the way in which online interactions can help with feelings of belonging, such as by helping to maintain one's relational value.

The evidence presented in this thesis along with other literature may enable further development of belonging theory, specifically to include computer-mediated interactions with others and other ways in which the online environment can be used to fulfil belonging needs. Further research should aim to explore the points discussed above in an attempt to help deepen our understanding of the concepts which help to fulfil belonging needs. In particular, acquiring more knowledge about the way these needs are met in FTF settings and virtual settings and the similarities and differences between these two settings will offer opportunities to increase our understanding of belonging as a fundamental human need and aid in the development of this theory.

8.2.1.2. Social skill development

The current studies also have implications for theories relating to the development of social skills. These skills are particularly important for developing and maintaining close relationships with others (Buhrmester, 1996; Schneider, 2000). Social skills include aspects such as empathy, being able to interpret others' intentions, managing conflicts with others, sharing, taking turns in an activity or to be able to conduct oneself in an appropriate way, depending on the social environment (Bagwell & Schmidt, 2011; Buhrmester, 1996). Social skills have consistently been found to be related to friendships and those with lower levels of social skills typically have fewer friendships and are also more likely to be rejected by their peers (Asher & Renshaw, 1981). Particular skills may be more important than others during specific developmental periods (Cillessen & Bellmore, 2002). For example, during early adolescence, being able to self-disclose appropriately, manage conflicts successfully, manage intimacy with friends, to provide social support for friends and being able to initiate interactions with others are all important for friendship development (Buhrmester, 1996). During early adolescence, friendships become more distal from adult supervision, become more focused on talking and provide a source for self-exploration and support and

thus being able to master these skills allows for greater friendship quality (Buhrmester, 1996). Acquiring these skills during early adolescence is therefore an important part of social development.

Schneider (2000) discusses how the theoretical background to the development of social skills has been typically approached from one of two perspectives – the trait approach or the situation approach. The first takes the approach that an individual will be socially skilled in all social situations since these skills form part of their repertoire of traits. The second takes the approach that an individual's social skill ability will differ depending on the situation. For example, an individual may be perceived as shy and less likely to initiate interactions with others at events with strangers. However, in another setting, they may seem to be highly interactive with known others. Nevertheless, with either approach, children and adolescents need to learn to “develop a heightened sensitivity to subtle verbal expressions and non-verbal behaviour in order to learn the rules that govern a wide range of social settings” (Schneider, 2002; p.91). These verbal expressions and non-verbal behaviours which one needs to attend to are aspects which are present during face to face interactions. Indeed, current research on the development of social skills focuses on the acquisition of these skills in face to face interactions. For example, Allen et al.,(2002) report on the relationship between attachment style and social skills. They measured social skills by providing participants with hypothetical dilemmas from social situations likely to be experienced with friends in face to face settings. However, increasingly children and adolescents must acquire social skills appropriate for and specific to online interactions. The adequacy of existing theory for understanding the development of online social skills is unclear.

Virtual social skills may be different to FTF social skills. Communication via the online environment requires additional skills to convey such things as emotions or intentions (Walther, 1992). These skills may be important in terms of managing relationships with others. For example, one could use sarcasm in a humorous way. The ability to interpret or convey sarcasm is important since should the sarcasm be misinterpreted, then this could cause conflicts in relationships with others. In FTF settings, one may be able to convey sarcasm or identify sarcasm in others through tone of voice or subtle facial expressions. However, in virtual settings, one needs to rely on such things as emoticons or punctuation. Individuals who use the online environment for communication may be developing new ways of expressing non-verbal cues. For example, Gunawardena

and Zittle (1997) showed how the use of emoticons can have a positive relationship with the satisfaction of a particular online platform as a way of communicating with others. Being able to convey and interpret intentions online may therefore be a separate set of social skills which children growing up in the age of Web 2.0 are developing. This generation may learn a new set of social skills implicated in things such as self-disclosing to others and showing care and concern for friends within the online environment. These skills may help to fulfil belonging needs and may be different to the skills which aid towards the fulfilment of belonging needs in face to face settings (as discussed in section 8.2.1.1). Whether these skills differ in important ways, remains to be seen. For this generation, using the online environment to interact with friends is often an extension of their offline life. In the same way then, the development of a possibly new set of social skills may not be interpreted as 'online' social skills *per se* but rather just further development of social skills in general. McQuillan and D'Haenens (2009) discuss how children's socialisation is increasingly including the online world and that the skills which are developed by the generation growing up in the age of Web 2.0 will reflect their use of this environment.

The existing approaches to understanding social skill development may therefore need to be redressed. For example, the trait approach (as discussed above) would assume that an individual who is highly socially skilled offline will also be highly socially skilled online (and vice-versa). However, the evidence presented in this thesis and in other research demonstrates that this approach might not be able to fully explain online social skill development. For example, people who are shy or socially anxious may not be highly socially skilled in offline settings but may have online social skills equal to those of their peers, due to the reduced cues and asynchronicity of the online environment. This suggestion would seem to support the situation approach. It will be of great interest to see how existing theories on social skill development may be expanded further by the social skill development of the generation of Web 2.0.

8.2.2. Applied

8.2.2.1. Uses of SNSs

8.2.2.1.1. Social skills training

Chapter 4 presented evidence that those high in shyness had higher levels of feelings of belonging when they used SNSs compared to shy non-users. As discussed in Chapter 4, other research has found that socially anxious individuals and introverted

individuals may prefer the online environment for communication with others (e.g. Valkenburg & Peter, 2007). SNSs may offer certain populations (i.e. those who tend to find face to face interactions difficult and awkward) opportunities to develop social skills and therefore help to achieve positive benefits in terms of relationships with others. There is some evidence that introverted people are more likely to use sites which offer greater anonymity (such as chat-rooms) rather than friend-networking sites where people are known offline (Amichai-Hamburger et al., 2008). There may be differences between individual SNSs themselves in terms of the degree of anonymity they offer users. For example, one might argue that contacts on Facebook are more likely to be people known offline than 'followers' on Twitter and thus the latter of these may be more attractive to shy, socially anxious or introverted individuals. Nevertheless, the reduced cues and asynchronicity offered by SNSs may provide a safe space in which to practise social skills, particularly those related to achieving benefits from relationships with others.

The online space may be a helpful platform with which to develop some level of social skill training. The aim of social skill training is to aid those who may have difficulties with forming friendships (Bagwell & Schmidt, 2011). Although online social skill training programmes have been developed (e.g. Lehenbauer, Kothgassner, Kryspin-Exner, & Stetina, 2013), these typically use the online platform as a space to provide information to the trainee and do not use this environment as a space to practise interactions with real friends. There may therefore be room for development of a programme that enables trainees to use the interactive elements of the internet to practise real interactions with friends as a way to help develop deeper relationships with friends offline. For example, SNSs may provide a safe space to self-disclose and develop intimacy with friends. A shy individual could be set tasks which may help to develop these skills, possibly enabling these individuals to learn effective ways of developing friendships in offline social settings. In turn, these individuals may be able to develop caring relationships with others which then may help contribute to their feelings of belonging. However, as already discussed in section 8.2.1.2, there may be important differences between online social skills and offline social skills. Consequently, research must first provide evidence for similarities and differences between online and offline social skills. This will enable a deeper understanding of which skills are able to be transferred to the offline world and to what degree, thus providing some evidence for any social skill training programme which might be developed.

8.2.2.1.2. SNSs and education

Throughout this thesis, evidence has been presented for a relationship between SNS use and feelings of belonging. It is well documented that children and adolescents tend to perform better academically when they feel they belonging to the school and/or class (Osterman, 2000; Oyserman et al., 2006). Thus, SNSs may be a useful tool to increase school or class belonging. For example, one of the secondary schools who took part in some of the studies presented in this thesis, have a school profile on Twitter. Students (as well as parents and teachers) are encouraged to follow the school on Twitter where the school posts a range of information such as success in inter-school sport competitions, photographs from school trips and important information about the school. Teachers also post encouraging information for their students. For example, one teacher posted '*Marking some of Y7 tests. Mega impressed with some of you. Well done :)*' and another posted '*Y8 boys into the semi-final of area cup following a hat-trick from Horsley and man of the match from Loudon*'. Posts such as this can encourage students and may increase the sense of school identity and belonging to the school. In addition to using SNSs at a school level, they could also be implemented into a classroom environment. For example, a Facebook group could be set up for a particular class and can be used to share ideas, have discussions and ask others for help with homework. There has been some research which has found that Facebook has been used effectively by college students to arrange study groups, contact fellow students with questions and to collaborate on work (e.g. Lampe, Wohn, Vitak, Ellison, & Wash, 2011). However, these studies have not evaluated how the use of these sites may affect feelings of belonging to the class/school nor the effect on academic attainment. It is possible that the use of SNSs in educational settings may aid towards academic attainment through increasing the students' feelings of belonging to the class and/or school. Future research should therefore aim to measure the academic outcomes of using sites such as Facebook for activities such as classroom collaboration.

8.2.2.2. Industry

8.2.2.2.1. Age restrictions

The evidence presented in this thesis, along with existing research demonstrates that many under-age children are using SNSs. For example, the majority of SNS users in the current studies had their own profile on Facebook and yet many of them were under the required age of 13 years. This continuing evidence of pre-teens using sites such as Facebook clearly has implications for the SNS industry. Presently, sites such as Facebook are governed

by the U.S. act of law, the Child Online Protection Privacy Act⁵. This act restricts how online websites can share data of any users who are aged less than 13 years. Specifically, they are required to gain parental consent. Since this may result in increased administrative costs, many sites now ban under 13 year olds in a bid to side-step the restrictions set out by COPPA (boyd, Hargittai, Schultz, & Palfrey, 2011). However, as many studies have shown, these younger users are increasingly using these sites. In addition, in a study with parents of 10-14 year old children, boyd et al., (2011) reported that many parents had aided their children in by-passing the age restrictions set out by Facebook to enable their child to set up a Facebook profile. These parents were not aware that this age restriction was related to data sharing and privacy. boyd et al go on to discuss how the key concept behind COPPA (i.e. that parents should be able to control the extent to which their child's data is shared) is ineffective since sites such as Facebook assume all users are over 13 years of age and their data being treated accordingly. It is therefore important for industry and law creators to begin to find a solution to this problem to enable greater efficacy in the protection of children's personal data. Perhaps, as suggested by boyd et al (2011), sites such as Facebook should allow these younger children to use their site and allow parents greater control over what happens to their child's data. However, this may be problematic in countries which have laws which conflict with this suggestion. For example, countries which belong to the European Union are legally bound by the UN Convention on the Rights of a Child which (among other things) protects the right of a child to privacy. Parents having full access to and control over their child's data would therefore be illegal in countries which are bound by such laws. There is therefore a need to try to identify and implement successful policies and procedures which not only protect children and their data but ensure that their right to privacy is maintained.

8.2.2.2.Mobile industry

Chapter 6 provided evidence of the relationship between mobile SNS use and feelings of belonging. Mobile technologies which offer ways for social interaction might provide users with a feeling of constant connectedness with others and thus findings such as this may influence future developments in mobile technologies. For example, when new mobile devices are developed, it may be of importance to ensure that it provides potential users with a way of interacting socially with others wherever and whenever they choose. In

⁵ The Children's Online Privacy Protection Act, 1998 specifies a 'child' as any person under 13 years of age. It sets out a series of regulations for any sites which offer services to children.

addition, the development of new applications (apps) for mobile devices may also benefit from considering the possible effects of social uses of these mobile devices, developing the app around this. The telecommunications industry in particular may benefit from providing numerous ways for users to socially interact with others, and to do so quickly. For example, through the course of this thesis, 4th Generation (4G) mobile phones were introduced onto the market, offering users an increased speed of access to the internet. Offering speedy access to the internet may be one way of attracting people to use this sort of technology to utilise the social platforms offered by the online arena.

8.2.3. Summary of implications

The research presented in this thesis is among the first to provide evidence on the possible effects of SNS use among younger users. The way in which these sites are used socially may enable further development of existing belonging and social skill development theories as well as providing some possible avenues for the uses of these sites in practical settings such as schools. Moreover, the data collected for this thesis may also inform the industry in terms of how users benefit from using the online environment for social interactions.

8.3. Directions for future research

8.3.1. The way in which SNSs are used by preteens

Although the data presented in this thesis offers empirical support for a relationship between SNS use and belonging, the data were limited in elucidating the mechanisms through which SNS use might affect belonging. For example, Chapter 6 found no evidence of FTF interactions acting as a mediator between using a mobile device to access SNSs and feelings of belonging. It was suggested that these sites are probably not being used for immediate contact with friends to arrange to meet up. However, this was pure speculation and future studies should therefore aim to investigate the different ways in which SNSs might be used by this younger age group to help contribute towards feelings of belonging.

Research should also aim to explore how younger users utilise sites like Facebook to maintain feelings of belonging. Research is required to gain a greater understanding of how the different features of SNSs (e.g. photographs, status updates) are utilised in this way. For example, in terms of maintaining one's relational value, these sites may be use as

a way of promoting supportiveness, likeability, competence/ success and attractiveness. In addition, research should aim to explore how SNSs are used for self-disclosure among this younger group of users. Existing research has been carried out with early adolescents examining online self-disclosure. For example, Valkenburg et al., (2011) found that 40% of early adolescent boys preferred to self-disclose via Instant Messaging services rather than offline, using these platforms as a way to practise these skills before using them in face to face settings. However, the data used for Valkenburg et al.'s study were collected in 2006 and the major SNSs (e.g. Facebook) were not available to the general public at that time. SNSs may offer additional ways to self-disclose over and above instant messaging platforms. For example, posting photographs, sending private messages and posting status updates may be ways in which one can share intimate information with others (Stern & Taylor, 2007). Self-disclosure on SNSs among this younger age of users should therefore be investigated.

In addition to examining how SNS use might be used to manage relational value, research should also investigate the extent to which the positive and negative ways in which SNSs can be used have an effect on psychological outcomes of SNS use (e.g. belonging). For example, Chapter 2 discussed how SNSs may be used to cyberbully others but also how they can be used to show support for others. Thus, children who may be cyberbullied may also receive online support from friends (e.g. positive comments on photographs). The support they get online may address their belonging needs but this effect might be diminished due to the cyberbullying events that also take place on this platform. Other negative ways in which these sites are used could also be investigated, for example, intensive use of these sites. Future research should aim to examine the specifics of how SNS users experience SNSs as a communicative platform. Specifically, how the negative and positive ways in which these sites are used may affect feelings of belonging.

The way in which SNSs are used is an important area for future research to explore. Adolescents may use these sites to manage relational value and to self-disclose and these may play a mediating role between SNS use and positive outcomes. Moreover, it is also important to examine the extent to which positive and negative experiences of these sites have an effect on psychological outcomes. These are all important areas which will further our understanding about the way these sites are used and how their use affects the daily lives of users.

8.3.2. Mobile use of SNSs

The data presented in Chapter 6 demonstrated that using mobile devices to access SNSs may provide a sense of connectedness to others. Within this chapter (see section 6.4), the possible behavioural and cognitive attachments to mobile devices and SNSs were discussed. Investigating differences in these attachments to SNSs is one area for future development. Of particular interest would be whether mobile device SNS users have different levels of these attachments to their SNS compared to non-mobile device SNS users. It would be hypothesised that those who use a mobile device would have greater attachments to their SNS, often checking their SNS (demonstrating behavioural attachment) and thinking more often about their SNS than non-mobile device users (demonstrating a cognitive attachment). The strength of these attachments may play a mediating role between mobile SNS use and levels of belonging or connectedness to others.

8.3.3. Comparing SNS use to other forms of non-FTF interactions

In the preliminary chapters of this thesis, many comparisons were made between interactions on SNSs and within FTF settings, arguing that interactions on SNSs were characterised by reduced cues and asynchronicity. However, there are other non-FTF platforms which could offer these characteristics and which 9-13 year olds could use, such as mobile phone texting and messaging services (e.g. MSN messenger, Blackberry Messenger). For example, a recent report shows that 8 to 11 year old children send an average of 41 text messages per week (OFCOM, 2012). Future research could therefore explore the extent to which SNSs are used to interact with friends in comparison to other non-FTF platforms. Of particular interest would be the extent of the role of each of these platforms in feelings of belonging to the friendship group. It could be argued however that some non-FTF platforms might have a weak relationship with group belonging since they do not offer communication on a group level, being used more for one-to-one communication (e.g. text messaging). Nevertheless, platforms other than SNSs may be used and thus their contribution to feelings of belonging to the friendship group must be explored.

8.3.4. Psychological outcomes of belonging

In their review of literature related to belonging, Baumeister and Leary (1995) discuss how when one feels as though they belong, they tend to report higher levels of self-esteem, lower levels of loneliness and lower levels of depression. This has been supported elsewhere. For example, Newman et al., (2007) found that among a sample of 11-18 year

old adolescents, those who reported higher levels of feelings of belonging to the peer group reported lower levels of internalising problems (e.g. anxiety, depression) and externalising problems (e.g. aggression). These psychological outcomes have also been examined in relation to online communication. As discussed in section 2.2.2.3, receiving positive comments on one's SNS has been found to be related to higher levels of self-esteem (Valkenburg et al., 2006) and online communication has been reported to be related to decreases in levels of loneliness and depression (e.g. Deters & Mehl, 2012; Shaw & Gant, 2002). However, these relationships have not always been evident (e.g. see Baker & Oswald, 2010; Gross, 2004). Since feeling as though one belongs can have positive effects on self-esteem, depression and loneliness and that online communication has been found to be related to these psychological outcomes, future research should investigate the mediating role of belonging in the relationship between SNS use and these psychological outcomes. Levels of belonging may be found to fully or partially mediate this relationship.

8.4. Development of the core model

The contributions of this thesis together with previous research may enable development of the conceptual model shown in Figure 2. This development is shown in Figure 18. From this figure, the solid lines represent significant relationships presented in this thesis. That is, parental perceptions of benefits of SNSs are positively related to both warmth strategies as well as SNS use of the child. In addition, levels of control are negatively related to SNS use of the child. The characteristics of the child (i.e. age and gender) were also found to be related to perceptions of risk, control and warmth, SNS use and belonging. These paths are indicated in the model in Figure 18. The model also includes those aspects of SNS use that are needed to develop this model further (dotted lines). Specifically, as discussed in section 2.4.2, there are parental characteristics which have been shown to have a relationship with the levels of strategies used. In addition, section 2.4.4 showed that certain parental characteristics might also be related to the perceptions of media. Thus, these characteristics might be added to the model with hypothesised pathways to perceptions of risk, perceptions of benefits, levels of control and levels of warmth. Although not included in Figure 18, further characteristics of the child (other than age and gender) may also be added to the model (e.g. social anxiety, introversion/extroversion). Lastly, the mechanisms through which SNS use influences belonging could also be explored (e.g. relational value, quality of SNS interactions) as well as the potential

psychological outcomes of positive feelings of belonging (e.g. self-esteem, loneliness, depression).

In order to test this model, future research should aim to recruit parents and their children. This research will provide further insight into (i) possible antecedents of levels of internet parenting in the form of perceptions of SNSs and how parental characteristics influence both these factors, (ii) how these levels of internet parenting relate to SNS use (iii) the mechanisms through which SNS use relates to feelings of belonging and (iv) the psychological outcomes of belonging.

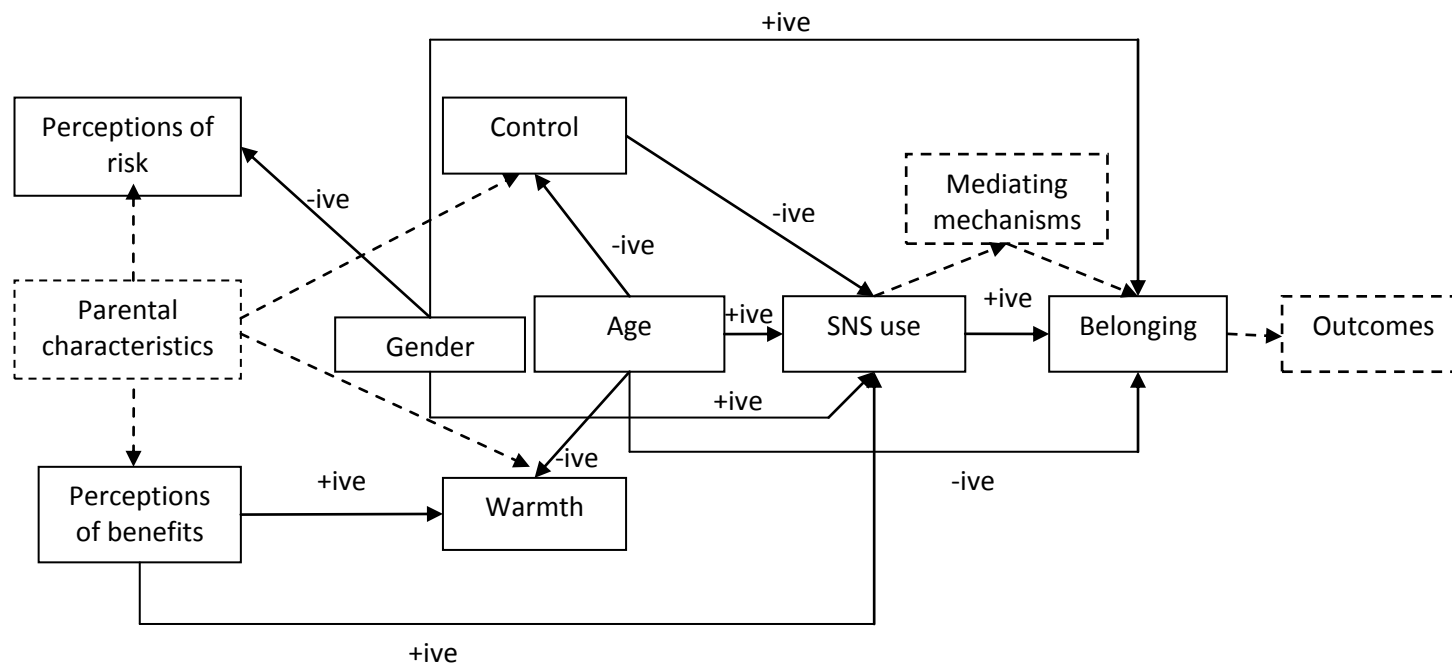


Figure 18 Hypothesised development of the core model. Solid lines represent significant pathways presented in this thesis. Dotted lines represent hypothesised pathways suggested for future research (see section 8.4).

8.5. Limitations and considerations

8.5.1. Absence of causal evidence

The studies presented in this thesis reveal a relationship between SNS use and feelings of belonging, whether this be using SNSs (compared to not using SNSs), the intensity with which these sites are used or accessing these sites via a mobile device. The first study aimed to provide evidence of a causal role of SNS use in feelings of belonging by using a longitudinal design that could potentially reveal a direct relationship between SNS use and subsequent belonging at a later time point. However, no support was found for this causal role. This may be problematic when presenting an argument for the role of SNSs in feelings of belonging. For example, it cannot be argued from the evidence presented here, that using SNSs directly causes increased feelings of belonging. The argument is limited to an association between these two variables. However, it must be considered that SNSs themselves may not be the causal tool. Ahn (2011) argues that technology rarely leads directly to outcomes (either negative or positive ones). Rather, it is the way this technology is used. Hence, as outlined by Walther's theory (Walther, 1996) the reduced cues and asynchronicity of CMC (e.g. communication via SNSs) may influence a SNS user's behaviour while on these sites. Specifically, the way they socialise and share content with friends. The relationship between SNS use and belonging may therefore be mediated by the way these sites are used or which particular sites are used.

Moreover, as discussed in Chapter 4, the particular time points when the data were collected must be considered. It is possible that at other stages of a child's or adolescent's life (e.g. the transition to secondary school), SNSs may play a causal role. It is important to remember that although no causal evidence was found, it cannot be concluded that SNSs do not have a causal role at other times in a child's life or that an indirect relationship is not possible. It is therefore important for future research to test the core model at times of significant social change in children's and adolescents' lives and to also include possible mediating factors (see section 8.4 for development of the core model to include possible mediating mechanisms).

8.5.2. Concepts not measured

Since the aim of this thesis was to provide a starting point for future research in terms of the relationship between internet parenting, SNS use and belonging, there were several factors which were not measured, factors that could have an effect on the relationship found between SNS use and feelings of belonging. Possible mediating factors between SNS use and belonging have already been discussed in sections 8.3.1 and 8.4, such as levels of self-disclosure. The inclusion of possible mechanisms through which SNSs may have an effect on feelings of belonging may provide greater insight into how SNS use influences friendship group belonging.

There are also other possible factors which may enhance our understanding of the way in which SNS use may have an effect on feelings of belonging. Firstly, the evidence presented in this thesis examined the quantity rather than quality of SNS use. It is well documented that not all interactions on SNSs are positive (Livingstone, Olafsson, et al., 2011; Valkenburg et al., 2006) and some of these are discussed in Chapter 2. These negative experiences of SNS use may have some effect on the strength of any relationship found between SNS use and feelings of belonging. For example, an individual may interact with their main friendship group on Facebook but may simultaneously be bullied on this site. Being on this particular SNS will not therefore be a wholly positive experience for this person and the quality of SNS use may have a moderating effect on the relationship between SNS use and belonging. It is therefore important to also measure the quality of interactions on SNSs in future research and this has been suggested in section 8.3.1 as a direction for future research.

Secondly, overall SNS use was not measured, in particular interactions with strangers or persons met online (i.e. not known to the user in their offline world). There is some evidence that the positive effects of online communication do not apply to those who use this environment mainly for interactions with strangers (e.g. Valkenburg & Peter, 2007). In the studies presented in this thesis, the participants were only asked to respond to questions in terms of their SNS interactions with their main friendship group. It may be possible then that for children/adolescents who are using SNSs to interact mainly with strangers (but also interact a little with their friendship group) may not benefit from SNS use in terms of increased feelings of belonging. This factor should be controlled for in future studies and/or should be explored further in terms of the quality of interactions with friends for those SNS users who use this platform to interact mostly with strangers.

Thirdly, in reality, SNSs are not the only non-FTF tool available to this age group for interactions with friends. Texting, using Skype, playing interactive online games and Blackberry Messenger (BBM) may all be alternative ways to interact with school friends after the school day (see section 8.3.3). Although the studies presented here demonstrated that a large proportion of 9 to 13 year olds are using SNSs to contact their friends, future studies should investigate the extent of the role of different non-FTF tools in feelings of belonging to the friendship group.

Fourthly, as discussed in section 2.4.2, there are many correlates associated with internet parenting strategies (e.g. parental education, parental attitudes towards the internet). Although these were not included in the model tested in this thesis, there is adequate evidence to support their addition to the model. Future research would therefore benefit from including these factors in the model (as proposed in section 8.4).

8.5.3. Potential issues with the measures used

8.5.3.1. Belonging measure and identification of 'the group'

The belonging measure asked participants to report their feelings of belonging to one particular friendship group – the group that they spent most of their time with at school. However, this may not reflect the reality of children and adolescents' experiences of their friendship groups. For example, friendship groups can be complex, interlinked and fluid (Cairns et al., 1995). An initial aim of this thesis was to reflect friendship groups and their SNS use by way of a socio-cognitive map. It was planned that belonging would be measured in relation to the participant's membership in their social network (e.g. nuclear or periphery) and their usage of SNS among their network. However, this aim was not possible due to lack of parental consent from all children/adolescents in any one network and also schools not willing to give their permission for pupils to provide names of anyone on the questionnaire (their own or others). It was therefore accepted that the best way to approach the identification of 'the group' was to ask participants to think about the friendship group they spent most of their time with at school while accepting that this may not reflect fully the reality of their friendship experiences.

8.5.3.2. Perceptions of risks and benefits

Chapter 7 investigated parental perceptions of potential risks and benefits of SNSs asking them to rate a given list of risks and benefits. Although this list was compiled with

information and suggestions from DCSF (2009), Livingstone and Brake (2010) and Tynes, (2007), it may not have been exhaustive. Future research should aim to carry out a survey with a wide number of parents, asking them about their perceptions of possible risks and benefits they perceive SNSs to pose to children and adolescents. Their responses could then be formulated into a questionnaire which can be statistically tested in terms of reliability and validity, with the possible use of Factor Analysis to identify subcategories. For example, many authors categorise general online risks and benefits as 'Content' (where the child is the recipient), 'Contact' (where the child is the participant) and 'Conduct' (where the child is the actor; see Livingstone & Haddon, 2009). It may be useful for future research to develop a robust standardised measure of parental perceptions of risks and benefits of SNSs, aiming to achieve a three factor questionnaire comprising of content, contact and conduct.

8.5.4. Ability to explain variance

Although there are some significant statistical models presented in this thesis, due to the size of many of the R^2 s, their ability to explain the variance within each factor was not particularly strong. Many of the statistical models were only able to predict 8% or less of the variance. For example, the lowest R^2 is in Study 3 where even though mobile use was found to be related to belonging, this model only explained 3% of the variance in belonging. The highest R^2 s were found in the studies testing structural models. Study 1 was able to explain 23% of the variance in belonging at time point 2, taking into account belonging (T1), control (T1 and T2), SNS use (T1 and T2), age (T1) and gender. Similarly, Study 4 was able to explain 22% of the variance in SNS use when taking into account parental perceptions of SNSs (risks and benefits) and parenting strategies (control and warmth). Hence, future studies should aim to employ strategies (e.g. wider range of participants and/or inclusion of other factors in the models) in an attempt to increase the amount of variance the statistical models can explain.

8.5.5. Changes in technology

We live in a world where technology is continually changing. These changes in technology may potentially have an effect on any relationship between SNS use and feelings of belonging. For example, during the course of this thesis, Facebook introduced the 'Timeline' feature which allows users to look back at the information their Facebook friends have posted since being on Facebook. Taking this as an example, it is possible that this feature may have an effect on how intimacy, for example, is achieved. Should a child or

adolescent Facebook user join a new group of friends and also add these friends as Facebook 'friends', then the Timeline offers these new friends the ability to look back at previous attempts to share intimate information with others; one does not need to start from scratch as it were. Hence, different functions on different SNSs may have an effect on the way concepts, such as intimacy with friends, are managed. Consequently, it is important for research to consider how the unique features each SNS offers may have a role to play in feelings of belonging.

8.6. Conclusion

Although previous research has begun to explore the effects of SNS use among younger children, it does not consider this in relation to parenting strategies. This thesis examined SNS use and the potential positive effects of using these sites among 9 to 13 year olds as well as the effect of parenting strategies on this relationship. The research found that SNS use is highly prevalent among this younger age group with SNS use increasing with age. Although some previous research has investigated the links between online communication and closeness to friends in children as young as 10 years old (Valkenburg & Peter, 2007a), the concept of belonging and online communication among this younger age group has not been explored to date. This thesis provides evidence of a relationship between SNS use and belonging, particularly for shy individuals suggesting that these sites are important for friendship development and maintenance among this younger age group. Belonging to the friendship group becomes increasingly important between the ages of 9 to 13 year olds and using these sites may be one way in which these children can fulfil their belonging needs, particularly those who may be shy (although the causal effects are unclear). Moreover, mobile use of these sites may also contribute to feelings of belonging. High levels of parental control may be reducing the way that children of this age can communicate with their friends on SNSs and parents may therefore need to consider the social implications for their children when employing different levels of parenting strategies. There is much need for future research to investigate further the aspects discussed in this thesis to enable further understanding of the role of SNSs in the social development of younger users of these sites. In particular, the way these sites are used to achieve positive social outcomes such as feelings of belonging and how the rules that parents impose on their child's use of the internet might have an indirect effect on these positive outcomes.

Appendices

Appendix i

University of York Ethics form covering data collected in March 2011 and July 2011

Department of Psychology Ethics Committee

Staff and Post-graduate Research Submission Form: Human Participants

(If the work is an assessed project for an undergraduate or graduate degree please do not use this form. One application may cover several experiments. If you can keep the form to one side through cunning word processing, such as deleting this red text, please do so.)

1. Name(s) and email address(es) of applicant(s) (postgraduate student to include supervisors)

Sally Quinn ; Julian Oldmeadow

2. Funder of grant/studentship if any:

Departmental Teaching Scholarship

3. Short title

Children, Social Networking Sites and Belonging

4. When do you wish to start data collection: ___15th June 2011

5. Aims of project:

To investigate the extent to which 9 -13 year olds use social networking sites (SNSs) to contact their friends, whether or not there is a link between using SNSs and feelings of belonging to the child's friendship group and whether the rules parents use to parent their children on the internet has any effect on any link found between SNSs and feelings of belonging.

6. What will the participants have to do? (v. brief outline of procedure):

Children – questionnaire. Questions will ask children to report which children are in their friendship group and to what degree they feel they belong to this group; which social networking sites they use, how often these are used and how they access them. It will also ask them to report on parental rules about internet usage.
Parents – questionnaire. They will be asked to report on the internet rules they have in place and which social networking sites their child uses and where their child accesses these sites. They will also be asked about their attitudes towards potential risks and benefits of using these sites.

7. What sort of participants will you test (for children state age range)? How will they be recruited?

Children ages 9 years to 13 years (years 5 & 6 in Primary School and years 7 & 8 in Secondary School). Schools have already been contacted and 3 primary schools and 2 secondary schools have agreed to take part.

I have CRB clearance yes

8. Arrangements for consent and debriefing (attach information sheet and consent form if participants are not undergraduates)

A consent form will be sent to each parent via each child's school. This will include details of the study and contact details should they have any questions.

9. How will you guarantee confidentiality of participants?

Each participant will be allocated a participant number. The list of the names and corresponding numbers will be kept separate from the completed questionnaires and any subsequent data retrieved from the questionnaires. In addition, children will be assured that their answers will not be shown to their teachers, parents or friends.

10. Please printout the word processed form and then get the following signatures:

Person(s) carrying out the work

.....

Supervisor(s) and grant holders, I/we are satisfied that that the procedures adopted will ensure the dignity, welfare and safety of all participants in this work

.....



Appendix ii

University of York Ethics form covering data collected in February 2012 and November 2012

Department of Psychology Ethics Committee

Staff and Post-graduate Research Submission Form: Human Participants

(If the work is an assessed project for an undergraduate or graduate degree please do not use this form. One application may cover several experiments. If you can keep the form to one side through cunning word processing, such as deleting this red text, please do so.)

1. Name(s) and email address(es) of applicant(s) (postgraduate student to include supervisors)

Sally Quinn Julian Oldmeadow

2. Funder of grant/studentship if any:

University of York Teaching Scholarship

3. Has the project received ethics approval from another funding agency (NHS, external sponsor)?

If yes please specify:

No

4. Does your project involve possible physical hazards to the participants and or the experimenter that require a health and safety check? No

5. Short title

Children, Social Networking Sites and Belonging

6. When do you wish to start data collection: 01/12/11

7. Aims of project:

To investigate Social Networking Site (SNS) use in children (age 9-13) and how this is related to feelings of belonging to the friendship group. I am also interested in the strategies parents use when parenting their child when using the internet.

6. What will the participants have to do? (v. brief outline of procedure):

Complete a questionnaire which will ask them about their SNS use, include a belonging measure, a measure of sociability and questions about how their parents parent them when they are on the internet. The questionnaire will be completed during school time.

7. What sort of participants will you test (for children state age range)? How will they be recruited?

Children age 9-13.Schools will be contacted to ask for their participation in this study. Letters or emails will be sent home to parents asking for their consent for their child to participate. One secondary school has already expressed an interest.

I have CRB clearance yes

8. Please describe how many subjects you are planning to test and what the rationale for the intended sample size is (e.g., was a power analysis conducted?)

Approximately 230 children will complete a questionnaire either online or in paper format. This sample size is preferable since many studies investigating internet use in children use similar sample sizes, if not larger.

9. Arrangements for consent and debriefing (attach information sheet and consent form if participants are not undergraduates)

Parental consent will be gained through letters sent home via the child. For the children who attend the secondary school which expressed an interest in the study, I aim to obtain consent from the head teacher who will act as loco parentis.

10. How will you guarantee confidentiality of participants?

Each participant will be provided with a participant number which will be entered onto the questionnaire. No names will appear anywhere on the questionnaire.

Please see also: www.xxx.com.....

11. Please apply the requested signatures electronically and send the form to:

Person(s) carrying out the work :Sally Quinn

Supervisor(s) and grant holders, I/we are satisfied that that the procedures adopted will ensure the dignity, welfare and safety of all participants in this work

Julian



Oldmeadow.....

IMPORTANT: The Principal Researcher has the responsibility of notifying the ethics committee without delay if changes to procedures are proposed, and if any adverse events involving risk to participants occur.

Appendix iii

Information and consent form for adult participants

Department of Psychology



INFORMATION SHEET AND CONSENT FORM FOR ADULT PARTICIPANTS

Children, Social Networking Sites and Belonging

Researcher: Sally Quinn

(Supervisor Dr. Julian Oldmeadow).

Brief Description of Study:

This research project is investigating the extent to which children between the ages of 9 years and 13 years use Social Networking Sites to communicate with their friendship group from school. We are also interested in whether the use of these sites affects the degree to which a child feels they belong to their friendship group. An additional area of interest is the ways in which parents may monitor their child's internet use and their attitudes towards possible risks and benefits of using social networking sites. As a parent or carer of a child within this age range, you will be asked to complete a questionnaire which will ask you questions about the internet rules you may have at home, what Social Networking Sites your child may use (if any), where your child accesses these sites and what your attitudes are towards these sites. This questionnaire can be completed either online or on a paper copy. Should you wish to participate, please complete and detach the consent form below. Please also indicate on the consent form which format of the questionnaire you would prefer and your child's name.

Declaration of Consent

I have been informed about the aims and procedures involved in the experiment I am about to participate in.

I reserve the right to withdraw at any stage in the proceedings. If I do so, I understand that any information that I have provided as part of the study will be destroyed and my identity removed unless I agree otherwise.

I would prefer to complete this questionnaire on a paper copy

Online

If you ticked 'online', please supply an e-mail address where the questionnaire can be sent.

Name:

Signed:

Date:

Child's name _____

Appendix iv

Information and consent form for Headteacher



Department of Psychology

INFORMATION SHEET FOR HEAD TEACHER

Children, Social Networking Sites and Belonging

Researcher: Sally Quinn

(Supervisor/s: Dr. Julian Oldmeadow).

This document explains why we are doing in this research project and sets out what will be involved for the school.

What is the purpose of the study?

This research project is investigating whether children between the ages of 9 years and 13 years use Social Networking Sites to communicate with their friendship group from school. It is also interested in how the use of these sites affects how each child feels they belong to their friendship group. The ways parents monitor their child's internet use and how this may affect any relationship between Social Networking Sites and belonging is also of interest.

What sort of children do we need?

As part of this research we are looking for children between the ages of 9 years and 13 years to take part in the study.

Who will give consent for a child to take part?

We will request consent from the parent or carer and from any child 14 or over (see attached information sheet and consent form). It will be made clear that the study is entirely voluntary and even having given consent the parent/carer is free to withdraw their child at any time without giving a reason. We obviously also need your consent, and similarly, you can withdraw from the project at any time.

What will be involved?

We will take every care to reduce to a minimum disruption to the school routine. We will need a classroom (or an ICT suite if you prefer the online questionnaire option). The children will be asked to complete a questionnaire which will initially ask each child to report which children make up their friendship group at school and to what degree they feel they belong to that group. They will also be asked to indicate which social networking sites they and their friends use to communicate with each other (if any) and what rules their parents may have at home when they use the internet. The last section of the questionnaire will ask the children to write down the names of other children who make up other friendship groups within their year group. Every effort will be made to ensure that the research sessions are as enjoyable and relaxed as possible for the children. The total testing time should not exceed 45 minutes per group of about 25 -30 children.

Who will run the research sessions?

All our researchers have CRB clearance for working with children. Mrs Sally Quinn will meet the children taking part and run the sessions. Sally has had four years experience as a teaching assistant and has also worked with children in research projects before. She is also a parent to three children.

Will all the children's details and the assessment results be kept confidential?

Yes. All the information about participants in this study will be kept confidential and data will be anonymous and stored securely.

We will not provide data about individual children to their parent/carer. We can provide data to you if you request it. However, you should be aware that it has not been obtained in the proper diagnostic conditions that you would expect from a Developmental Psychologist for example.

Contact:

If you require any further information or have any questions about this study, please do not hesitate to contact Mrs Sally Quinn or Dr Julian Oldmeadow:

Mrs Sally Quinn, Department of Psychology, The University of York, York, YO10 5DD Phone: 01904 433190

Dr Julian Oldmeadow, Department of Psychology, The University of York, York, YO10 5DD Phone: 01904 433190

CONSENT FORM FOR HEAD TEACHER

Children, Social Networking Sites and Belonging

Declaration of Consent

I have been informed about the aims and procedures involved in the research project described above.

I reserve the right to withdraw any child at any stage in the proceedings and also to terminate the project altogether if I think it necessary.

I understand that the information gained will be anonymous and that children's names and the school's name will be removed from any materials used in the research.

Name:

Signed:

School:

Date:

Appendix v
Information and consent form for parents



Department of Psychology

INFORMATION SHEET FOR PARENTS/CARERS

Children, Social Networking Sites and Belonging

Researcher: Sally Quinn

(Supervisor: Dr. Julian Oldmeadow).

Your child is being invited to take part in a research study. In order for you to decide whether your child would like to take part, this information sheet explains why the research is being done and what it will involve. Please ask us if there is anything that is not clear or if you would like more information.

What is the purpose of the study?

This research project is investigating the extent to which children between the ages of 9 years and 13 years use Social Networking Sites to communicate with their friendship group from school. We are also interested in whether there is a relationship between the use of these sites and whether a child feels they belong to their friendship group. An additional area of interest is the ways in which parents may monitor their child's internet use. It is important to examine the use of these sites within this age group as many children within this age group are now using these sites. Consequently, it is of further importance to see what impact this use may have on the social development of children.

Who is conducting the research?

The research is being conducted as part of a PhD project by Mrs Sally Quinn, in the Department of Psychology, University of York. The research is being supervised by Dr. Julian Oldmeadow, a lecturer in social psychology at the University of York.

Why has my child been chosen?

As part of this research we are looking for children between the ages of 9 years and 13 years to take part in the study, whether they use Social Networking Sites or not. Your child has been chosen to take part because they are within this age bracket.

Does my child have to take part?

No. This is an entirely voluntary project. If you choose not to participate, it will not affect you or your child in any way. If you give your consent for your child to participate, you will be asked to sign a consent form. Even if you give consent, you will still be free to withdraw your child at any time and without giving a reason.

What will my child be asked to do if we agree to take part?

Your child will be asked to complete a questionnaire at school. This questionnaire will ask each child to indicate how many children are in their friendship group at school. They will then be asked a series of questions relating to how much they feel they belong to their own group and what different activities they do with these friends outside school time. Each child will be asked to indicate which Social Networking Sites (if any) they and the rest of their group use to communicate with each other and where they access these sites. Questions will then be asked relating to the rules their own parents have at home about them using the internet.

Where will the research sessions take place?

The session will take place at your child's school. Every effort will be made to ensure that the research sessions are as enjoyable and relaxed as possible for the children. The total testing time will not exceed 40 minutes.

Who will run the research sessions?

Mrs Sally Quinn will meet the children taking part and run the sessions. She has a Criminal Records Bureau clearance for working with children. Sally has had four years experience as a teaching assistant and has also worked with children in research projects before. She is also a parent to three children.

Will all my child's details and the assessment results be kept confidential?

Yes. All the information about participants in this study will be kept confidential and data will be anonymous and stored securely. Data for individual children will not be released to parents however results pertaining to the whole data set will be supplied upon request.

What are the risks?

This research has been reviewed by the ethics committee of the Department of Psychology, and it has been deemed to present no risks to children's or parents' physical, psychological or emotional well-being.

Contact:

If you require any further information or have any questions about this study, please do not hesitate to contact Mrs Sally Quinn or Dr Julian Oldmeadow.

Mrs Sally Quinn, Department of Psychology, The University of York, York, YO10 5DD Phone: 01904 433190

Dr Julian Oldmeadow, Department of Psychology, The University of York, York, YO10 5DD Phone: 01904 433190

*Thank you for reading this information and considering whether or not you would like your child to take part in this study. Should you wish your child to take part in this study, please complete and detach the attached consent form and return to your child's school no later than **15th July 2011***

CONSENT FORM FOR PARENTS/CARERS

Children, Social Networking Sites and Belonging

Researcher: Sally Quinn

(Supervisor: Dr. Julian Oldmeadow)

I give my consent for my child _____ (child's name)
in form _____ to take part in the above named research
project. I understand that all data will be kept confidential and that I have the
right to withdraw my child from the study at any time.

Print name _____

Signed _____

Date _____

Appendix vi

Children's Questionnaire

Note: the measures on sociability and shyness (question 4) were only included in the questionnaire for the data collection at each of the two time points of the longitudinal study. They were **not** included in the questionnaire at all other data collection times

Children and Social Networking

Children's Questionnaire

PLEASE DO NOT WRITE YOUR NAME ON THIS QUESTIONNAIRE

Participant number _____

School Name _____

I am a	Girl	<input type="checkbox"/>
	Boy	<input type="checkbox"/>

How old are you?

About your Friendship Groups






1. Some children hang around a lot together at school. Some children may hang around with one group of children and some children may hang around with a few different groups. Think about the different children **you** hang around with at school.

Please tell us how many **different** groups of children you hang around with at school. If you just hang around with one group, just put '1'

Think about the group of children you hang around with the **most** at school. How many children are in this group? (not including you)

The following questions will ask you about you and your friends in the group that you spend **most** of your time with. When answering these questions, think about the friends in this group.

2. This section will ask you to think about you and the group of friends you spend **most** of your time with at school. On each of the lines in the box below, there is a sentence about you and this friendship group. Read each sentence and then tick one of the boxes you think best describes how you feel about you and your group of friends.

	Not at all true 	A little true 	Somewhat true 	Quite true 	Really true 
a. I feel that the rest of my friendship group accept me					
b. I feel that the rest of my friendship group care about me					
c. I feel wanted by the rest of my friendship group					
d. When the rest of my friendship group make plans, I feel included					
e. I feel that the rest of my friendship group don't want to spend time with me					
f. I feel I can talk to the rest of my friendship group if something is bothering me					
g. I feel comfortable with the rest of my friendship group					
h. I feel rejected by the rest of my friendship group					
i. I feel part of my friendship group					
j. I feel an important member of my friendship group					

3. Again, think about the group of friends you spend **most** of your time with at school. How often do you do the following activities with any friends from this group? For example, if you see your friends at a club every week, tick the box that says 'every week' on the line 'some sort of club'. If you can think of any other activities which you do with these friends, please write it in the blank boxes at the bottom of the table and tick how often you do this activity with your friends.

	Never	Less than once a month	About once a month	About once a week	2 or 3 times a week	Every day or almost every day
Some sort of club outside of school (for example, guides, football, swimming)						
Sleepovers						
Spending time at each other's houses after school						
Spending time at each other's houses during the day in school holidays						
Shopping						
Go to a park or playing field						
Other						

4. Please think about the following statements and tick the boxes which apply to you

	Not true at all	A little true	Somewhat true	Mostly true	Very true
I like to be with people					
I like to play with others or spend time with others rather than being alone					
I find people more exciting than anything else					
I am a bit of a loner					
I feel cut off or disconnected from others when I am alone					
I tend to be shy					
I am very friendly towards people I've not met before					
I am very sociable					
I make friends easily					
I take a long time to warm to strangers					

5. Some children use social networking sites to talk to their friends, to share photos and videos with each other and things like that. Please tell us if you have a profile on any of the following social networking sites and if you use any of them to contact your friends from your **main friendship group from school.**

You may tick more than one but if you don't use any, then just tick 'don't use these sites'.

	Don't use these sites	Facebook	Beebo	Twitter	My Space	Club Penguin	Star Doll	Moshi Monsters	Habbo	Neopets	Poptropica	Other (please write what other site you use)
I have a profile on these sites												
I use these sites to contact my friends												

If you **do not** use these sites, please tell us why:

6. Think about the places where you are when you log onto the social networking sites(s) that you use. Tick any of the boxes below to tell us where you are when you use these sites (you may tick more than one box). If you do not use these sites, just tick 'I don't use these sites'.

- | | | | |
|---|--------------------------|---|--------------------------|
| • I don't use these sites | <input type="checkbox"/> | • PC or laptop at a public library | <input type="checkbox"/> |
| • My own PC or laptop at home in my bedroom | <input type="checkbox"/> | • PC at an internet cafe | <input type="checkbox"/> |
| • PC or laptop at a friend's house | <input type="checkbox"/> | • Mobile device (e.g. mobile phone, ipod) | <input type="checkbox"/> |
| • PC or laptop at a relative's house | <input type="checkbox"/> | • Other | <input type="checkbox"/> |
| • PC or laptop in school | <input type="checkbox"/> | | |
| • Family PC or laptop at home | <input type="checkbox"/> | | |

Please tell us where _____

**IF YOU DO USE SOCIAL NETWORKING SITES TO CONTACT YOUR FRIENDS IN YOUR
FRIENDSHIP GROUP, PLEASE GO TO QUESTION 7**

**IF YOU DO NOT USE SOCIAL NETWORKING SITES TO CONTACT YOUR FRIENDS OR YOU
DO NOT USE THEM AT ALL, PLEASE GO TO QUESTION 12**

The next few questions will ask you about the sites you and your friends use to contact each other. When answering these questions, think about the group of friends you spend most of your time with in school.

7. How long have you been using social networking sites to contact your friends in your group? (please tick one box)

Less than one month Between 1 and 6months Between 7months and 1 year Between 1 and 2 years More than 2 years

8. How often do you use a social networking site to contact your friends in your group? (please tick one box)

never less than once a month once a month about once a week 2 or 3 times a week every day or almost everyday

9. How many days in the last 7 days have you been on a social networking site to contact friends from your friendship group? Please write a number in the box

10. On the last day that you were on one of your social networking sites, how many times did you contact your friends? Please write a number in the box

11. On the last day that you were on one of your social networking sites, how long did you spend making contact with your friends? (for example, chatting, sharing photos, commenting on your friends' photos) Please tick one box.

About 15
minutes

About half
an hour

About an
hour

About an hour
and a half






About 2
hours






About 2 and a
half hours

3 hours
or more

12. Some parents or carers may have rules when their children use the internet at home. Think carefully about the rules your parents or carers have. Read each of the statements below and tick the box which you think best describes it.

	Never	Not very often	Some of the time	Most of the time	All of the time
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
a. My parents/carers are around when I am on the internet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. My parents/carers show me websites which are child-friendly (e.g. library, songs, crafts)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. My parents/carers listen to me when I talk to them about what I have done on the internet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. My parents/carers only allow me to do certain things on the internet (e.g. I am not allowed to chat)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I ask my parents/carers if I don't understand anything on the internet (e.g. difficult words, foreign language)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. I am only allowed to go on the internet on certain days and at certain times	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. I ask my parents/carers questions if I am surprised or shocked about anything I have seen on the internet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. My parents/carers talk to me about the dangers of the internet (e.g. computer viruses, cyberbullying)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Never	Not very often	Some of the time	Most of the time	All of the time
					
i. My parents/carers say I'm only allowed to contact people on the internet who I already know					
j. My parents/carers talk to me about things I have found on the internet or things I might find on the internet					
k. My parents/carers show me how to surf the internet safely					
l. I ask my parents/carers for help if I have technical problems with the internet					
m. My parents/carers explain the internet rules together with me					
n. I am only allowed on the internet for a certain amount of time (e.g. one hour a day)					
o. My parents/carers use special software to block some internet sites					
p. My parents/carers talk to me about the things I do on the internet					
q. My parents/carers only allow me to visit certain websites					

	Never	Not very often	Some of the time	Most of the time	All of the time
					
r. My parents/carers talk to me about the good things the internet can be used for (e.g. finding information, playing games, contacting friends)					
s. My parents/carers stop me when I visit a site that they think is unsuitable					
t. My parents/carers sit with me at the computer while I am on the internet					
u. My parents/carers stop me when they see I am chatting with people online					
v. My parents/carers talk to me about people I meet on the internet					
w. My parents/carers make rules about the internet together with me					
x. My parents/carers watch me when I am on the internet					
y. My parents/carers only allow me to go on the internet in certain places (e.g. I am not allowed on the internet in my bedroom)					
z. After I have used the internet, my parents/carers check the websites I have been on					



That is the end of the questionnaire. Thank you for taking part!

If you want to talk to someone about your friends or about using social networking sites safely, you can talk to your teachers or your parents/carers. Below are the websites of some other people you can talk to or find out more information about being safe online

www.childline.org.uk or telephone 0800 1111

www.cybermentors.org.uk

www.kidscape.org.uk

www.thinkuknow.co.uk

www.clickcleverclicksafe.direct.gov.uk/index.html

<https://www.facebook.com/safety>

Appendix vii

Parental questionnaire

Children and Social Networking

Parental Questionnaire

Participant number _____

Name of school which your child attends _____

How old is your child? _____

My child is a

boy

girl

(please tick)

a. What is your relationship to your child? (please tick one box)

Father

Step-father

Grandparent

Other

Mother

Step-mother

Carer

(please specify)

b. Please indicate your highest level of education:

Primary School

Lower Secondary School

Higher Secondary School (GCSE/O'level or equivalent)

College/Sixth Form (A'level or equivalent)

University (undergraduate degree or equivalent)

University (postgraduate degree or equivalent)

This questionnaire will ask you about the different ways in which you may parent your child when they are using the internet and about different social networking sites which your child may use. We are also interested in your views about the possible risks and benefits of using these sites. On the following pages are some statements and questions relating to these topics. Please think carefully about your responses to these statements and questions.

1. Please read each of the following statements and tick the relevant box.

	Never	Not very often	Some of the time	Most of the time	All of the time
I am around when my child is on the internet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I show my child 'child friendly' websites (e.g. library, songs, crafts)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I listen to what my child tells me about what he/she did on the internet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I limit what my child is allowed to do on the internet (e.g. no chatting allowed)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My child asks me questions when he/she doesn't understand things on the internet (difficult words, foreign language, difficult procedures)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I only allow my child to surf the internet at specific days and times (e.g. only Wednesday afternoon)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Never	Not very often	Some of the time	Most of the time	All of the time
My child asks me questions when he/she is surprised or shocked about things he/she has seen on the internet					
I talk with my child about the dangers related to the internet (e.g. computer viruses, cyberbullying)					
I ensure that my child can only contact people via the internet they already know personally					
I discuss with my child about what he/she has found or will find on the internet					
I show my child how to surf safely on the internet					
My child asks me questions when he/she encounters technical problems when surfing the internet					
I explain internet rules together with my child					

	Never	Not very often	Some of the time	Most of the time	All of the time
I limit the time my child is allowed on the internet (e.g. only one hour per day)					
I use special software to block certain internet sites for my child					
I talk to my child about what he/she does on the internet					
I limit the type of websites my child is allowed to visit					
I talk to my child about the rich possibilities of the internet (looking up information, playing games, contacting friends)					
I stop my child when he/she visits a less suitable website					
I sit together with my child at the computer to surf the internet					
I stop my child when I see he/she is chatting					

I talk to my child about whom he/she meets via the internet					
I define internet rules together with my child					
I watch when my child surfs on the internet					
I limit the places where my child can access the internet (e.g. not in their bedroom)					
After my child has used the internet, I check the websites they have visited					

2. How confident are you in using the internet? (please tick one circle)

Not at all confident

Not very confident

Fairly confident

Very confident

3. How often do you use the internet? (please tick on box)

Every day or almost every day

Once or twice a week

Once or twice a month

Less often

Never

4. Some children use social networking sites to talk to their friends and share photos and videos etc. On the grid below, please indicate which sites you have heard of, which you have your own profile on and which ones your child has profiles on (you may tick more than one box on each line). Please also tell us which of these sites your child uses to contact their main group of friends from school. If you don't know which one(s) your child uses or your child does not use these sites, please tick the appropriate boxes.

	Facebook	Beebo	Twitter	My Space	Club Penguin	Star Doll	Moshi Monsters	Habbo	Neopets	Poptropica	Other	I don't know	My child doesn't use these sites
Sites on which I have my own profile													
Sites my child has a profile on													

5. If your child does not use Social Networking sites, please indicate why (for example, your child is not interested in them or you may not allow your child to use them).

6. Where does your child access the social networking site(s) that they use? (you may tick more than one box)

My child does not use social networking sites	<input type="checkbox"/>	PC or laptop at school	<input type="checkbox"/>
Family PC or laptop at home	<input type="checkbox"/>	PC or laptop at a public library	<input type="checkbox"/>
Their own PC or laptop at home in their bedroom	<input type="checkbox"/>	PC at an internet cafe	<input type="checkbox"/>
PC or laptop at a friend's house	<input type="checkbox"/>	PC or laptop at a relative's house	<input type="checkbox"/>
Mobile phone	<input type="checkbox"/>	Other (please specify)	<input type="checkbox"/>
I don't know	<input type="checkbox"/>	<hr/>	

7. We are interested in your attitudes towards the possible risks and benefits to children who use social networking sites.

Below is a list of possible risks to children who use these sites. Think about the degree of risk you think each poses to children in general (children) and your child in particular (my child). Please tick the appropriate box on each line.

POSSIBLE RISKS	No risk	Low risk	Moderate Risk	High risk	Very high risk
Being bullied or harassed					
Communicating with adults not known to them or their families					
Being exposed to inappropriate or offensive adult content (e.g. pornography)					
Being exposed to inappropriate material relating to drugs					
Being exposed to material which encourages anti-social or extremist					
Providing too much personal information					
Meeting up with someone offline who they have made friends with online					

Being threatened					
Missing out on face to face interactions					
Affecting physical health by spending too much time on social networking sites					
Becoming addicted to using social networking sites					
Spending less time on homework					
Become involved in bullying others					
Spending less time with family					

Are there any other risks associated with using social networking sites which concern you about children in general and/or your child in particular?

8. Below is a list of possible benefits to children who use social networking sites. Think about the degree of benefit you think each gives to children in general (Children) and your child in particular (My child) by ticking the relevant box.

POSSIBLE BENEFITS	No benefit	Low benefit	Moderate benefit	High benefit	Very high benefit
Keeping in contact with friends and family					
Helps to widen their circle of friends					
Helps to develop technological skills					
Children can say things they would find uncomfortable saying face to face					
Share advice with friends					
Can help to support friends					
Helps to develop communication skills					
Helps to develop perspective taking skills					

Helps to develop social skills					
Can learn about other cultures					
Helps to develop decision making skills					
Can learn about wider society					
Helps to develop a sense of who they are					
They can ask other children for help with homework					
Helps to develop critical thinking skills					
Become closer to friends					

Are there any other aspects of social networking sites which you think are a benefit to children in general and/or your child in particular?

That is the end of the questionnaire. Thank you for taking part.

Should you want to find out more information about keeping your child safe online, you can log onto the website of the 'Click Clever, Click Safe' campaign run by the UK Council for Child Internet Safety (UKCCIS) or the 'Think U Know?' campaign run by the Child Exploitation and Online Protection Centre (CEOP). Both these sites have sections aimed at helping parents to keep their children safe online. Facebook also has a page dedicated to the safe use of their site.

Please feel free to detach this sheet from the questionnaire for your retention.

www.facebook.com/safety

www.clickcleverclicksafe.direct.gov.uk

www.thinkuknow.co.uk/parents/

Appendix viii

Descriptive statistics for each item within each measure in each study (child data - Studies 1, 2 & 3)

Measure	Items	Study 1						Study 2			Study 3		
		Time point 1			Time point 2			N	Mean (SD)/ %	Missing / don't know	N	Mean (SD)/ %	Missing / don't know
		N	Mean (SD)/ %	Missing / don't know	N	Mean (SD)/ %	Missing / don't know						
Gender		220	54.09% boys	0	239	53.14% boys	1	443	48.98% boys	1	542	51.48% boys	2
Age		220	11.54yrs (0.50)	10	239	12.40yrs (2.99)	0	443	11.83yrs (1.23)	11	542	12.12yrs (0.75)	21
SNS user/non-user		220	55.02% users	14	239	59.83% users	12	443	59.59% users	2	542	62.18% users	0
Belonging	I feel that the rest of my friendship group accept me	220	4.48 (0.85)	0	239	4.48 (0.89)	1	443	4.42 (0.80)	0	542	4.44 (0.82)	1
	I feel that the rest of my friendship group care about me	220	4.14 (0.94)	1	239	4.15 (1.01)	1	443	4.14 (0.91)	2	542	4.15 (0.92)	2
	I feel wanted by the rest of my friendship group	220	4.17 (1.02)	0	239	4.11 (0.95)	1	443	4.14 (0.89)	1	542	4.15 (0.96)	2
	When the rest of my friendship group make plans, I feel included	220	3.98 (1.11)	0	239	3.93 (1.07)	3	443	3.88 (1.08)	1	542	3.92 (1.08)	2
	I feel that the rest of my friendship group don't want to spend time with	220	4.55 (0.87)	0	239	4.71 (0.64)	0	443	4.48 (1.02)	3	542	4.51 (0.96)	4

	I feel I can talk to the rest of my friendship group if something is bothering me	220	3.93 (1.20)	1	239	3.79 (1.24)	2	443	3.91 (1.14)	3	542	3.95 (1.14)	5
	I feel comfortable with the rest of my friendship group	220	4.48 (0.86)	1	239	4.56 (0.78)	4	443	4.49 (0.81)	3	542	4.48 (0.83)	5
	I feel rejected by the rest of my friendship group (reverse scored)	220	4.67 (0.80)	2	239	4.78 (0.62)	2	443	4.64 (0.90)	9	542	4.70 (0.80)	6
	I feel part of my friendship group	220	4.60 (0.78)	2	239	4.50 (0.87)	3	443	4.54 (0.79)	4	542	4.56 (0.78)	4
	I feel an important member of my friendship group	220	4.07 (1.00)	0	239	4.04 (1.00)	1	443	4.09 (0.97)	2	542	4.07 (0.98)	2
Sociability	I like to be with people	220	4.46 (0.85)	7	239	4.36 (0.90)	4	-	-	-	-	-	-
	I like to play with others or spend time with others rather than be alone	220	4.41 (0.88)	8	239	4.27 (1.00)	4	-	-	-	-	-	-
	I find people more exciting than anything else	220	3.43 (1.09)	8	239	3.33 (1.13)	2	-	-	-	-	-	-
	I am a bit of a loner (reverse scored)	220	4.53 (1.02)	8	239	4.49 (1.03)	5	-	-	-	-	-	-
	I feel cut off or disconnected from others when I am alone	220	2.31 (1.25)	9	239	2.22 (1.35)	4	-	-	-	-	-	-
Shyness	I tend to be shy	220	2.20 (1.17)	11	239	2.21 (1.22)	4	-	-	-	-	-	-
	I make friends easily (reverse scored)	220	2.10 (1.11)	12	239	3.81 (1.11)	3	-	-	-	-	-	-

	I am very sociable (reverse scored)	220	2.15)	9	239	3.77	4	-	-	-	-	-	-
			(1.16)			(1.16)							
	I take a long time to warm to strangers	220	2.56	10	239	2.62	7	-	-	-	-	-	-
			(1.13)			(1.81)							
	I am very friendly towards people I have not met (reverse scored)	220	2.01	11	239	3.73	4	-	-	-	-	-	-
			(1.06)			(1.12)							
SNS intensity/ frequency	How long have you been using SNSs to contact friends?	121	3.55	22	143	3.78	29	264	3.80	5	-	-	-
			(1.44)			(1.56)			(1.10)				
	How often do you use SNS to contact friends?	121	5.14	1	143	5.32	4	264	5.00	12	337	5.16	10
			(1.35)			(1.13)			(1.28)			(1.22)	
	How many days in the last 7 have you been on a SNS to contact your friends?	121	4.78	0	143	4.99	0	264	4.19	7	337	4.41	23
			(3.61)			(2.15)			(2.62)			(2.53)	
	On the last day, how long did you spend making contact with your friends?	121	3.11	0	143	6.82	0	264	3.25	2	337	3.24	18
			(1.91)			(15.32)			(1.97)			(1.88)	
	On the last day, how many times did you contact your friends?	121	7.74	5	143	3.46	3	264	5.80	5	-	-	-
			(12.04)			(2.08)			(7.27)				
	Number of locations	121	2.88	6	143	3.40	0	264	3.10	5	-	-	-
			(1.78)			(1.80)			(1.86)				
Face to face contact	Club outside school	-	-	-	-	-	-	-	-	-	542	3.35	5
												(1.81)	
	Sleepovers	-	-	-	-	-	-	-	-	-	542	3.17	5
												(1.36)	
	Spending time at each other's house after school	-	-	-	-	-	-	-	-	-	542	3.91	6
												(1.64)	

	Spending time at each other's house during school holidays	-	-	-	-	-	-	-	-	-	542	4.46 (1.68)	3
	Shopping	-	-	-	-	-	-	-	-	-	542	3.46 (1.51)	8
	Go to park or playing field	-	-	-	-	-	-	-	-	-	542	4.26 (1.85)	7
	Other activity	-	-	-	-	-	-	-	-	-	542	-	542
Control	My parents are around when on internet	220	2.61 (1.34)	16	239	2.34 (1.27)	6	443	2.53 (1.16)	44	-	-	-
	My parents watch me	220	1.84 (1.42)	20	239	1.67 (1.38)	12	443	1.54 (0.87)	56	-	-	-
	My parents check the websites I've been on	220	1.94 (1.51)	20	239	1.74 (1.44)	11	443	1.75 (1.12)	59	-	-	-
	My parents use special software to block some sites	220	2.51 (1.77)	18	239	2.35 (1.78)	11	443	2.20 (1.45)	69	-	-	-
	My parents stop me when I visit less suitable site	220	3.34 (1.71)	18	239	3.21 (1.86)	10	443	3.07 (1.51)	78	-	-	-
	My parents stop me when I'm chatting	220	2.30 (1.97)	19	239	2.12 (1.94)	10	443	1.51 (1.02)	87	-	-	-
	I'm only allowed on internet certain days and times	220	2.39 (1.87)	16	239	2.20 (1.81)	8	443	1.91 (1.26)	79	-	-	-
	I'm only allowed on the internet for a certain amount of time	220	2.74 (1.78)	22	239	2.28 (1.74)	11	443	2.29 (1.40)	71	-	-	-

	My parents only allow me to do certain things on the internet	220	2.63 (1.73)	17	239	2.41 (1.72)	9	443	2.24 (1.33)	67	-	-	-
	My parents only allow me to visit certain websites	220	2.69 (1.64)	19	239	2.29 (1.64)	11	443	2.43 (1.42)	60	-	-	-
	My parents say I'm only allowed to contact people I already know	220	4.05 (1.51)	21	239	3.56 (1.69)	8	443	3.59 (1.55)	73	-	-	-
	My parents only allow me to go on the internet in certain places	220	2.11 (1.70)	19	239	2.07 (1.79)	11	443	1.98 (1.35)	73	-	-	-
Warmth	My parents make rules with me	220	2.23 (1.57)	21	239	2.04 (1.54)	12	443	2.10 (1.31)	59	-	-	-
	My parents explain the internet rules together with me	220	2.45 (1.55)	23	239	2.25 (1.59)	13	443	2.33 (1.35)	53	-	-	-
	My parents talk to me about the things I have found	220	2.67 (1.47)	20	239	2.48 (1.59)	9	443	2.53 (1.33)	52	-	-	-
	My parents talk to me about the things I do online	220	3.37 (1.55)	19	239	2.19 (1.48)	11	443	2.29 (1.24)	56	-	-	-
	My parents talk to me about people I meet online	220	2.97 (1.81)	19	239	2.72 (1.89)	12	443	2.35 (1.33)	90	-	-	-
	My parents talk to me about the good things the internet can be used for	220	2.78 (1.46)	20	239	2.37 (1.53)	11	443	2.69 (1.40)	57	-	-	-
	My parents talk to me about the dangers of the internet	220	2.93 (1.30)	18	239	2.76 (1.43)	8	443	2.96 (1.28)	43	-	-	-

My parents listen to me when I talk to them about what I've done	220	2.48 (1.45)	17	239	3.28 (1.78)	8	443	2.99 (1.43)	84	-	-	-
I ask my parents for help if I have technical problems	220	3.67 (1.54)	19	239	3.63 (1.59)	12	443	3.35 (1.45)	52	-	-	-
I ask my parents questions if surprised or shocked	220	2.96 (1.69)	16	239	2.73 (1.76)	9	443	2.70 (1.48)	61	-	-	-
I ask my parents if I don't understand anything	220	3.18 (1.64)	15	239	2.76 (1.60)	8	443	2.86 (1.46)	56	-	-	-
My parents sit with me at the computer	220	1.73 (1.42)	20	239	1.59 (1.37)	13	443	1.49 (0.91)	61	-	-	-
My parents show me how to surf safely	220	2.69 (1.55)	23	239	2.38 (1.66)	9	443	2.47 (1.39)	55	-	-	-
My parents show me child friendly websites	220	2.15 (1.49)	15	239	1.97 (1.51)	8	443	1.91 (1.13)	56	-	-	-

Appendix ix

Descriptive statistics for each item within each measure in each study (parent data - Study 4)

Measure	Items	Study 4		
		N	Mean (SD)/ %	Missing/ don't know
Gender of child		222	45.10% boys	18
Relationship to child		222	91.81% mothers	2
Age of child		222	11.14yrs (1.07)	1
SNS user/non-user (child)		222	69.82% SNS users	0
Control	I am are around when my child is on internet	222	3.81 (0.74)	5
	I watch my child when they are on the internet	222	2.97 (1.06)	13
	I check the websites my child has been on	222	2.81 (1.39)	12
	I use special software to block certain sites for my child	222	3.54 (1.68)	9
	I stop my child when they visit a less suitable site	222	4.43 (1.01)	31
	I stop my child when I see they are chatting	222	2.98 (1.38)	21
	I only allow my child on the internet on certain days and times	222	2.35 (1.33)	18
	My child is only allowed on the internet for a certain amount of time	222	3.65 (1.34)	11
	I only allow my child to do certain things on the internet	222	4.11 (1.14)	5
	I only allow my child to visit certain websites	222	4.07 (1.23)	9
	I ensure my child can only contact people they already know	222	4.65 (0.82)	18
	I only allow my child to go on the internet in certain places	222	3.84 (1.44)	14
Warmth	I make rules with my child	222	3.98 (1.23)	4

	I explain the internet rules together with my child	222	4.01 (1.12)	5
	I talk to my child about the things they have found	222	3.84 (1.09)	5
	I talk to my child about the things they do online	222	4.08 (0.97)	5
	I talk to my child about people they meet online	222	4.12 (1.23)	27
	I talk to my child about the good things the internet can be used for	222	3.90 (0.98)	5
	I talk to my child about the dangers of the internet	222	4.16 (1.00)	5
	I listen to my child when they talk to me about what I've done	222	4.31 (0.78)	5
	My child asks for help if they have technical problems	222	3.99 (1.18)	5
	My child asks questions if surprised or shocked	222	3.56 (1.24)	5
	My child asks me if they don't understand anything	222	3.67 (1.19)	5
	I sit with my child at the computer	222	2.68 (0.84)	5
	I show my child how to surf safely	222	3.56 (1.28)	5
	I show my child child-friendly websites	222	2.78 (1.08)	6
Perceptions of risks	Being bullied or harassed	222	3.65 (1.01)	11
	Communicating with adults not known to them or family	222	3.69 (1.10)	10
	Being exposed to adult content	222	3.67 (1.09)	12
	Being exposed to inappropriate material relating to drugs	222	3.34 (1.12)	12
	Being exposed to material which encourages anti-social/extremist behaviour	222	3.39 (1.13)	14
	Providing too much personal information	222	3.80 (1.10)	12
	Meeting up with someone offline who they have made friends with online	222	3.38 (1.12)	13

	Being threatened	222	3.60 (0.88)	14
	Missing out on face to face interactions	222	3.74 (0.93)	13
	Affecting physical health by spending too much time on SNSs	222	3.68 (0.91)	13
	Becoming addicted to SNSs	222	3.83 (0.90)	15
	Spending less time on homework	222	3.81 (0.88)	15
	Become involved in bullying others	222	3.45 (1.00)	15
	Spending less time with family	222	3.70 (0.94)	15
Perceptions of benefits	Keeping in contact with family and friends	222	3.48 (0.99)	21
	Helps to widen circle of friends	222	2.74 (1.05)	22
	Helps to develop technological skills	222	3.09 (1.04)	20
	Children can say anything they might find uncomfortable saying face to face	222	2.61 (1.10)	19
	Share advice with friends	222	2.90 (1.02)	19
	Help to support friends	222	3.00 (0.99)	18
	Helps to develop communication skills	222	2.55 (1.00)	18
	Helps to develop perspective taking skills	222	2.43 (1.01)	20
	Helps to develop social skills	222	2.41 (1.01)	17
	Learn about other cultures	222	2.80 (1.01)	18
	Helps to develop decision making skills	222	2.48 (0.95)	17
	Can learn about wider society	222	2.72 (1.05)	16
	Helps to develop a sense of who they are	222	2.38 (1.05)	16

Can ask for help with homework	222	2.73 (1.04)	16
Helps to develop critical thinking skills	222	2.40 (0.97)	16
Become closer to friends	222	2.56 (1.05)	17

Appendix x

Standardised coefficients, standard errors and significance values of the original model tested in Study 4 (Chapter 7)

Predictor		Predicted	Bootstrapped		
			<i>b</i>	<i>SE</i>	<i>p</i>
Gender	➡	SNS use	.07	.06	.305
Age	➡	SNS use	.01	.03	.721
Age	➡	Control	-.12	.04	.009
Age	➡	Warmth	-.22	.05	<.001
Age	➡	Risks	.01	.03	.848
Risks	➡	Control	.03	.12	.780
Risks	➡	Warmth	.31	.17	.071
Risks	➡	SNS use	-.02	.09	.802
Benefits	➡	Control	-.08	.06	.193
Benefits	➡	Warmth	.24	.08	.002
Benefits	➡	SNS use	.12	.04	.005
Control	➡	SNS use	-.31	.09	<.001
Warmth	➡	SNS use	.03	.03	.373

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