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Author:	Thomas Calvard
Thesis title:	Understanding perspective taking and its role in relation to teamworking and diversity
Qualification:	PhD
Date awarded:	27 January 2011

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Understanding perspective taking and its role in relation to teamworking and diversity

The Institute of Work Psychology

University of Sheffield

Thomas Stephen Calvard

Thesis Submitted in Partial Fulfilment of the Degree of PhD

September 2010

Abstract

In the current thesis I focus on perspective taking as a fundamental social process guiding productive and cooperative interactions within and between work teams. I define perspective taking as the effortful and effective understanding of diverse cognitions, emotions, and identities tied to particular targets in particular situations.

Little attention has been given to perspective taking as a situational or state concept that can vary across groups, time, and contexts. Previous research has typically treated it as a stable personality difference or a temporary mindset induced in laboratory settings. In this thesis, I conduct three studies with data collected from Masters of Business Administration (MBA) study teams and one final study with military teams to examine how perspective taking supports effective teamwork interactions.

In the first study, I use data collected from MBA team members to develop and validate three self-report, state indicator measures of active perspective taking: effort, empathic concern, and positive attributions. In the second study, I demonstrate positive reciprocal relationships over time between the three perspective taking indicators and cooperative team member outcomes. In the third study, I show that entire MBA teams can exhibit shared perspective taking at the team level of analysis. The results also confirm that team perspective taking indicators mediate between team diversity and team states of potency and reflexivity. In the final study, I develop a self-report measure of team perspective taking effectiveness or understanding and show that it is positively related to perceived performance, helping, and morale in military teams. I show that team perspective taking effectiveness is supported by elaboration of task perspectives and effective perspective taking for the external targets of other teams.

The practical and research implications of the studies for understanding situational perspective taking, team effectiveness, and finding value in team diversity are discussed.

Key words: perspective taking, empathy, team effectiveness, and diversity.

Conference papers and reports arising from the thesis

Griffin, M., Tighe, C., Horton, K., Collins, C., Calvard, T., & Rodriguez, M. (2009). *A Study of Team Cohesion, Fighting Spirit, and Team Effectiveness in the Royal Navy.* Report submitted to the British Royal Navy.

Parker, S. K., Calvard, T. S., & Collins, C. (2009). *Perspective Taking in Teams: Development of a Dynamic Measure*. Paper presented by T.S. Calvard at the Annual Academy of Management Meeting in Chicago, Illinois.

Parker, S. K., Calvard, T. S., & Collins, C. (2008). *The Moderating Influence of Perspective Taking in Teams: Overcoming and Learning From Conflict*. Paper presented by T.S. Calvard at the Institute of Work Psychology Conference in Sheffield.

Acknowledgments

Sharon Parker and Carolyn Axtell have both been fantastic supervisors. They have provided me with the support, encouragement, and freedom to develop high-quality research in rewarding directions. I know this is a luxury many doctoral students are not likely to have. As supervisors, they have challenged me to get the most value from my data and ideas, to present research in the most coherent and compelling ways possible, and most importantly, to consider my work from multiple perspectives. I thank them deeply for their guidance, and their enthusiastic collaborative spirit will remain with me as I embark on my future academic career.

I am also grateful to the Institute of Work Psychology at the University of Sheffield and its PhD community, academic researchers, and administrative staff. Without these support networks, my PhD experience would have undoubtedly been greatly diminished. Role models, mentors, colleagues, and friends were always in ready supply and generous with their time, feedback, and support. In particular I thank Angela Carter for acting as a vibrant, inspiring colleague and mentor; always providing a welcome optimistic and practical perspective, as well as many opportunities to disseminate and share research effectively.

I must say thanks to my family here – my father and younger sister. They have tirelessly empathised with me and shown incredible amounts of compassion and understanding during what has often been an emotional and consuming experience. I feel lucky to have them in my life and value them more than I can say. I am likewise indebted to the memory of my late mother, who will always occupy a special place in giving positive meaning and motivation to all my endeavours.

I also thank Catherine Collins, who was involved in generously providing the MBA data used in this thesis, and the British Royal Navy, who were as gracious, friendly, and receptive an organisation as any researcher could hope to work with.

Finally, I thank my patient and trusted friends, who have helped to keep my life balanced and enriched alongside professional concerns. As we continue on our respective journeys, I look forward to repaying the favour.

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Understanding Perspective Taking and its Role in Relation to Teamworking and
Diversity
Chapter 1: Thesis Overview

In this initial chapter, I provide an overview of the thesis, including the study rationales and aims, and the findings from the core studies and their implications. The purpose is to provide the reader with an orienting framework for the remainder of the thesis, which addresses these aspects in much more detail.

"You have your way. I have my way. As for the right way, the correct way, and the only way, it does not exist" (Friedrich Nietzsche)

"Everything we hear is an opinion, not a fact. Everything we see is a perspective, not the truth" (Marcus Aurelius)

"You must look within for value, but must look beyond for perspective" (Denis Waitley)

In this thesis, I argue that perspective taking is a fundamental social process that enables organisational teams to function more effectively and benefit from diverse viewpoints. The overarching premise is that teams will be more cooperative and effective if their members engage in perspective taking. An underpinning assumption is that perspective taking can be influenced and changed; that is, that perspective taking is malleable and can be shaped through organisational and managerial practices.

Perspective taking refers to the effortful and effective understanding of diverse viewpoints in a particular situation or context. Perspective taking is a broad concept that sits among related forms of social response (e.g. emotional contagion, imitation, or sympathy regarding another's situation) (de Waal, 2008). In this thesis I narrow down the focus to adopt a definition of perspective taking as a conscious, effortful process that maintains a relatively clear self-other distinction. Perspective taking involves attending to, and understanding, the specific situations and viewpoints of others as separate from one's own – sometimes combined with vicarious emotional arousal. This can also be described as actively involving oneself with understanding diverse others' cognitive, emotional, and behavioural responses to a situation (de Waal, 2008).

This thesis focuses mostly on team members' *efforts* to see the viewpoints of others. Some attention is paid to perceived thoroughness or understanding of other

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viewpoints, but overall there is less focus on the capacities involved in *accurate* perspective taking (Parker, Atkins, and Axtell, 2008). Perspective taking accuracy can be regarded as a separate and slightly more ambiguous philosophical problem, sometimes unrealistically difficult to attain (e.g. Ickes, 2003), and in any case motivated attempts at attaining a thorough understanding of others' perspectives will always be an important first step for any organisational group, regardless of their ability.

A major aim of this thesis is to identify certain working conditions that promote and support perspective taking within and between teams. Understanding these conditions is important for designing and identifying teams with members that work particularly well together; teams that actively manage and embrace diverse viewpoints. An assumption that underpins this aim is that perspective taking is malleable; that levels of perspective taking are likely to vary depending on situational parameters. These situational factors include the aspect of the target the perspective taker(s) are trying to understand (e.g. emotional versus intellectual), the nature of the target in question (e.g. ingroup or outgroup), and the aim or outcome guiding the process (e.g. helping or communication) (Davis, 2005).

Breaking down perspective taking into its constituent elements in contingent pathways like this is vital for organisational groups and team members to diagnose the effectiveness of their own particular processes for working together effectively. It is also important because perspective taking may not always be a positive process - actively seeking to understand others can also be fraught with possible manipulations, errors, distortions, and insecurities (Epley, 2008).

Another focus of the thesis is on perspective taking within diverse groups. Diversity is captured or implied in several ways and held to be particularly important in relation to team perspective taking. Diversity includes different roles, background dimensions, and other surrounding teams that are all likely to be sources from where perspectives derive or originate (i.e. values, expertise, and explanations for events). In this thesis, I answer questions about how diverse workers come together and engage with one another's diversity, try to make sense of it, and how this affects ongoing work states and behaviours as a result. Differences in viewpoint arise from a range of highly observable surface aspects through to deeper, invisible aspects rooted in information, experiences and values.

Finally, in this thesis I aim to show that perspective taking can emerge as a team-level process where shared levels of perspective taking develop across team

members. Team members encounter one another and attempt to perspective take on an individual basis, but these component interactions between combinations of people can become routinised within a workgroup and its shared predicaments, where the whole is greater than the sum of the parts.

Team perspective taking involves a collective focusing of attention towards significant social differences in such a way that their reality is acknowledged and incorporated into how the group organises itself as a whole; with subsequent cognitions, emotions, and behaviours being tailored toward appropriate responses to those differences. This enables teams and their members to harness the value inherent in diversity, communicating and coordinating more effectively than if differences are construed less constructively or ignored. Team perspective taking provides a way of capturing how teams process diverse social information; tracking which teams are more or less effective at it and why (Huber & Lewis, 2010).

The overall focus of the thesis can be stated and summarised in the following themes:

- 1) Perspective taking can be seen as a conscious process with constituent elements and pathways that vary according to important features of social situations.

- 2) Perspective taking can be defined as actively trying to understand the situations and responses of diverse others around us. Working and social environments need to have supportive provisions and conditions in place to ensure that perspective taking efforts result in positive, cooperative interpretations and behaviours.

- 3) Teamworking and diversity are two particularly important workplace arenas for focusing on assessing levels of perspective taking. Perspective taking can help to find value in diversity within and between teams, using it to enhance the effectiveness of working processes and outputs.

- 4) Diverse individuals come together and expend effort on perspective taking, but individual tendencies can be shared in relation to qualitatively distinct aggregated wholes in a social system, particularly at the team level. Entire teams collectively attend to their diverse compositions or other teams around them, and vary in the degree that they constructively account for those perspectives in their social and task-based work processes.

1.1 Overall Aims:

1) The first aim of the thesis is to investigate the validity of a measure of perspective taking that can vary across work situations. This is in contrast to the typical approach of assuming perspective taking is a stable personality trait or individual difference, acting uniformly across situations in general. This treatment of perspective taking refines the conceptualisation and operationalisation of the concept, by considering it as a malleable psychological state.

A state approach means that perspective taking levels are typically not equal across situations for the same person or group. The motivation for perspective taking will vary according to important situational features such as who the targets are, what the issue at hand is, and other contextual features of the work environment (e.g. interdependence, time pressure). In doing this, the scope for useful application to workplace contexts (i.e. team work, diversity) is also expanded, because we can begin to identify situational parameters that can be modified to improve perspective taking efforts and produce more successful work interactions. In Chapter 2 I review the literature on perspective taking research and definitions. In Chapter 3 I review research on situational perspective taking's relevance to workplaces, in particular effective teamworking and diversity.

In past research, perspective taking has typically been defined as a relatively fixed individual difference measured by self-reports, or as a mindset that can be temporarily manipulated using basic instructions and stimuli. The former approach, which views perspective taking as a fixed trait, does not allow for the possibility that an individual's level of perspective taking can vary according to the situation. The second approach, involving manipulation of perspective taking mindsets in the laboratory, shows that it is indeed amenable to variation according to situation, but this approach cannot be readily used to investigate perspective taking in the ongoing complex reality of a workplace. Therefore, by defining and measuring perspective taking in this thesis from a state-oriented approach, the limited organisational work on state perspective taking can be advanced. I explore how perspective taking can meaningfully vary according to: what it is the perspective taking attempt involves focusing on (e.g. emotions versus thoughts); where the perspectives are originating from or being framed (i.e. features of diversity/other teams present); and the distinct states and behaviours these different situational types of perspective taking produce.

A state approach complements a trait approach. As with many social-cognitive constructs in psychology (e.g. self-esteem, self-efficacy, aggression, goal orientation), there are stable underlying genetic or personality-based traits that to some extent will determine perspective taking across situations. Nevertheless, defining perspective taking more carefully according to types of situations will allow us to explain it and intervene in more specific ways; to improve upon baseline, trait-based levels of perspective taking tendency.

To meet this first aim I arrange the thesis as follows. Starting with a literature review, I identify several possible types of perspective taking, depending on different scenarios and behaviours. The validity of measures of three indicators of perspective taking (labelled as – perspective taking effort, positive attributions, and empathic concern) is confirmed within a particular context (team working) using a secondary data source of MBA team workers (Study 1a; Chapter 4). The state indicator measures are compared with a trait measure, and shown to vary across time (and thus situation) more. I also show that raters do meaningfully differentiate between different state indicators, suggesting that perspective taking can take on multiple different forms in a situation.

2) The second aim of this thesis is to show empirically that the concept of perspective taking has importance for people working interdependently in organisational team-based environments. In particular, study 1b demonstrates the reciprocal positive relationships between individual-level team member perspective taking and effective team member outcomes. The state and behavioural outcomes selected are particularly important for working cooperatively with different viewpoints: role clarity, helping behaviour, and conflict management behaviour. Relationships with outcomes are tested longitudinally, reciprocally and derived from further investigation of the MBA team worker sample (Study 1b; Chapter 5).

The findings show how perspective taking operates as an important sequential process sustaining successful interpersonal interactions between particular team members. Sequentially, the perspective taking effort indicator is shown to be the core 'process' indicator, most proximal to trait perspective taking and antecedent to the 'results' indicators of empathic concern and positive attributions. The findings also show that perspective taking's relations with outcomes is dependent on team workers' self-esteem and perceptions of task interdependence, which in combination with

perspective taking can provide the confidence and reassurance to act cooperatively and prosocially.

3) The third aim of this thesis is to validate the concept of perspective taking at the higher, team-level of analysis. It will be argued theoretically and shown empirically that perspective taking can exist at a team-level of aggregation, given that work teams can develop shared ways of processing their overall diverse composition. This is important to study because individual team member perspective taking efforts are smaller components that align in a team environment to create social norms; the whole being dependent on, but greater than the sum of these component parts. Whole teams can have a collective tendency to engage in perspective taking of members, to explore their own diverse make-up and even external diverse viewpoints from other teams. A group's shared engagement with perspectives has important implications for confidence, democratic decision-making, reflexivity, adaptivity and other contextual team performances.

This aim is met through team-level analysis of the secondary MBA team data, explicitly focusing on patterns of inter-personal cultural differences and intra-personal functional expertise overlaps contained within teams as whole units (Study 2; Chapter 6). This analysis extends the individual-level groundwork of Studies 1a and 1b, showing that the diversity of whole teams influences their collective perspective taking as they try to make sense of that diversity. Team perspective taking is placed as a mediator between team diversity and important outcomes capturing a sense of potent confidence and reflexive adaptation. Studying perspective taking at the team level of analysis allows organisations to understand how team diversity features relate to positive social interaction. Practically, this suggests seeding the teams with particular members, or emphasising particular aspects of team diversity and perspectives that can be useful.

The findings presented help to open up the 'black box' of how and when diversity can lead to improved perspective taking and social process amongst team workers.

4) The fourth and final aim of this thesis is to show that a team can beneficially focus on target perspectives outside of itself (i.e. other teams) as well as internal to itself, and that team perspective taking is related to perceived performance via the mechanism of elaborating on task information.

These additional developments are tested using primary data collected from military naval teams working within the large-scale diversity of an organisational system (Study 3; Chapter 7). This final empirical study sheds light on another important aspect of perspective taking: inter-team perspective taking. In many modern organisations, diverse departments and functions have to coordinate their working viewpoints to achieve higher-order objectives. The findings aim to identify particular routes by which team perspective taking effects can be supported. This includes designing work tasks that allow 'elaboration' of information as it passes back and forth between diverse parties, incorporating and feeding off different perspectives to improve its quality. It also includes designing work practices that are relational, external, and boundary spanning - that emphasise the importance of building high-quality relationships across organisational boundaries so that broader perspectives can be shared to good effect. These facilitating conditions and routes show how team perspective taking as a process can be encouraged and linked to perceptions of positive team outcomes, including team performance, morale, and helping. The findings have practical implications for multi-team organisations operating in complex but cooperative environments (e.g. top management teams, project teams, and cross-functional teams). High-quality relationships within and between these teams are likely to give organisations performance and productivity advantages in competitive industries (Gittell, 2000; 2005).

This aim is the final step in tracing an entire process of collective team perspective taking; developing around compositions of diversity, finding value in that diversity, and generally producing more effective teamwork. Team perspective taking offers a way of explaining how much teams are motivated to understand and coordinate different types of diversity in ways valuable to their working process. In Chapter 8 I summarise common themes of findings and discusses the implications of Studies 1-3 for research, theory, practice, and policy. Overall, I have conducted the studies in this thesis to comprehensively put forward a scheme by which diverse entities actively listen, accommodate and proactively coordinate with one another to produce higher-quality ongoing performances. Such a fundamental social process has great value in workplaces for the moral wisdom and respectful integrity it describes. I propose that no teamworking or diversity dividends can be fully realised without the important intervening steps of perspective taking activity.

The aims of the thesis can be summarised as follows:

- 1) To show that perspective taking can take the form of distinct indicators that vary across situations and over time, depending on what about the interaction is being focused on (differences requiring effort, empathic emotional responses, and/or positive attributional explanations). These different 'state' indicators can add value above and beyond a cross-situationally consistent, generic trait approach.

- 2) To show that team member perspective taking indicators relate positively to states and behaviours that help diverse team members to work on tasks together effectively and sustain successful interpersonal interactions: role clarity, helping, and conflict management. Increasing perspective taking interacts with self-esteem and perceived task interdependence to establish prosocial outcomes; a sense of confidence and connection for team interactions.

- 3) To show that perspective taking can exist for teams as wholes, shared in response to team diversity features, and in turn affecting how a team processes diversity to ensure more inclusive, higher-quality group functioning, utilising the aspects of diversity that are valuable to the work at hand.

- 4) To show that team perspective taking's effects can be further facilitated by an inter-team perspective taking focus directed externally at other teams, and relate to perceived performance via transforming elaborations of task representations. These conditions of high-quality, broader relationships and information elaboration can also yield practical insights into workplace interventions (e.g. job rotations, cross-training) for positively supporting the diversity-perspective taking-team effectiveness sequence.

1.2 Studies and Relationship Findings in Summary:

Figure 1.1 below summarises the relationships that I aim to examine in this thesis; the predictors, moderators, mediators and outcomes of perspective taking relations concerning teamworking and diversity. Studies 1a and 1b are at the team member level of analysis, whereas studies 2 and 3 expand the inquiry to include the higher, team level analysis. Study 3 also moves on from the perspective taking motivation focus of the three indicators to also examine effective perspective taking or

'perceived understanding'. Overall, the thesis studies trace a situational process of cooperation and positive understanding across team members and whole teams.

- **Study 1a:** An MBA dataset study looking at validation of a state measure of perspective taking for individual team members in situations of teamworking and diversity. The study confirms the existence of three indicators of perspective taking that vary according to what is attended to, and over time or across situations. The study has implications for organisations wishing to assess how diverse team members coordinate in situ and the different ways they can be trained to do so.

- **Study 1b:** The MBA dataset and three indicators of team member perspective taking are established as important for driving prosocial team member states and behaviours over time, with some longitudinal causal analysis. The study shows that perspective taking effort is a key intervening mechanism linking trait perspective taking with other state forms and team member outcomes. The study has implications for putting together cooperative, diverse teams and tracking different forms of perspective taking suited for different aspects of team effectiveness. Perspective taking supports a constructive sense of clear roles, helping behaviour, and conflict management behaviour amongst team members. Reciprocal effects are also discussed; the idea that interaction outcomes can pragmatically affect subsequent perspective taking. Team members' levels of self-esteem and perceived task interdependence are analysed as key moderating characteristics that identify who benefits most from perspective taking, and when.

- **Study 2:** This is another MBA dataset study, but with a different set of variables at the team level. The study shows that whole teams can have shared perspective taking levels unique within their teams and that differ to other teams. This in part depends on singular cultural differences between workers (inter-personal) versus multiple, overlapping functional expertise within workers (intra-personal). Strong inter-personal differences between members undermine team perspective taking and undermine positive team process outcomes (potency/confidence and reflexivity). More flexible, intra-personal, coexisting differences within team members can have the opposite effect and are beneficial for team perspective taking and outcomes. The study finally shows evidence that perspective taking is a key intervening mechanism for whole teams, explaining how the input of perspectives provided by diversity features variously

Figure 1.1 Thesis Studies and Perspective Taking Relationships Examined
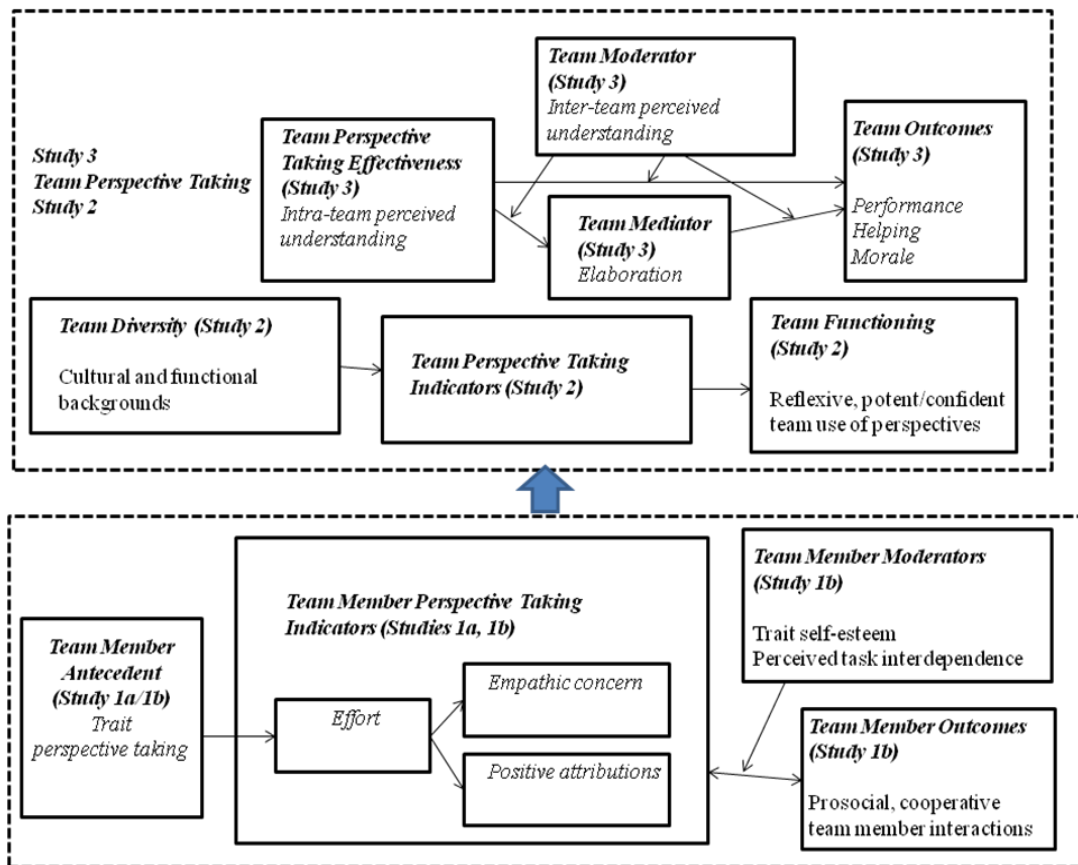
translates into the outputs of valuable team outcomes.

- **Study 3:** Study 3 is a cross-sectional study but with a very large team-based sample from a military organisation. This study explores some extra conditions and processes that organisations can take advantage of to facilitate team perspective taking and effective coordination of teamwork within a wider system. The study measures perspective taking as the thorough complexity or effective perceived understanding of one's own team versus other surrounding teams. Within-team perspective taking is positively linked to self-reported team outcomes of performance, helping, and morale. Team perspective taking's relation with performance is partially mediated by the extent to which teams elaborate on the information provided by different perspectives. Within-team perceived understanding effects are partly moderated and supported by between-team perceived understanding. The study provides evidence that a team's perspective taking within itself and external to itself can dynamically support teamwork in terms of high-quality social information processing and performance-relevant outcomes in a multi-team system.

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1.3 Thesis and Study Contributions

Notwithstanding the limitations of this thesis, which are discussed in Chapter 8, I make several contributions with the research conducted. The studies contribute to the research literature by identifying how perspective taking efforts and understandings can be defined, measured, supported and form a tractable process in workplace situations. Although perspective taking may well be important to organisations generally, I focus on more specific contributions concerning team effectiveness, cooperation, and diversity. I use the studies to show how perspective taking can ensure effective coordination, communication and cohesion amongst various team members and teams, avoiding conflict, misunderstanding, and social disintegration. Practical ways for managers and team workers to act on these findings are also discussed further in the final chapter (Chapter 8).

1) Measuring and Defining Team Perspective Taking Processes

A first practical contribution of this thesis is how I show that perspective taking can be defined and understood to good effect in the broad social system of a team-based organisation – at the individual and team levels. I use the studies to show how the form of perspective taking process definitions and measures ranges from initial efforts through to positive cognitive/affective inferences and effective understandings. 'Active' perspective taking motivations are considered for positively framing and accommodating team difference in well-intentioned and supportive ways. 'Effective' or thorough perspective taking understanding is also considered for the accuracy and complexity with which own teams and other teams are comprehended (Gehlbach, 2004; Parker et al, 2008). I provide pointers to what 'perspectives' themselves might be and where they originate, from different individual roles and needs through to diversity on different dimensions, and entirely separate teams or groupings.

In the rising service and knowledge economy, organisations that can coordinate as a whole and adapt to reflect on new perspectives at all levels are likely to have a competitive performance advantage (Gittell, 2000; 2005). Through my studies I show that the further away or more different a particular target or set of targets are in the organisation, the more effortful, limited and difficult perspective taking can become (Epley, 2008). Yet often, if organisations are putting together project teams and cross-functional teams of various kinds, there will be a need to support perspective taking that

is flexible enough to transfer across levels of analysis and interdependencies – for individuals coordinating within teams, and for teams interfacing with other teams to form much larger entities.

In sum, perspective taking and perspectives themselves can be defined and measured in various ways in team-based workplace settings. This thesis explores multiple important forms of perspective taking, focusing on different targets, different content, different stages, and different aims in order to understand how successful teamwork interactions can be achieved.

2) A Situational Approach to Team Perspective Taking

I make a second contribution of this thesis by consolidating prior organisational research demonstrating that perspective taking need not always be measured as a general trait that is stable across situations and unitary in its form (e.g. Parker & Axtell, 2001). Perspective taking among teams and their members can vary according to cooperative goals, different social targets, and the available dimensions of diversity. Continuing to research perspective taking from this more situational angle helps organisations to better understand how, when, and where team perspective taking can best be promoted to good effect, and the major situational parameters involved. In turn, this makes the contribution of shedding light on possible training, work environment designs, and other interventions that will support perspective taking coordination.

Team members can engage with perspectives to reach various cooperative goals, depending on the situation (e.g. establishing clear roles, helping others, managing conflict) by enacting different types of perspective taking processes. This analysis contributes to theory and research on perspective taking as a trainable, effortful aptitude with multiple indicators (Davis, 2005; Gehlbach, 2004). It allows researchers to measure different aspects of perspective taking in different organisational contexts (e.g. efforts in strategic/decision-making work, emotions in service roles, and causal attributions during change processes or unexpected events).

Team diversity is also a key situational parameter affecting the ease and benefit with which perspectives can be derived. By studying diversity in this thesis, I show that workplaces need to assess and define team diversity as a potential source of perspectives, and appreciate that how diversity is framed, measured, and combined will affect the success of teams in using those perspectives to valuably improve their functioning (Ely & Thomas, 2001; Van Knippenberg & Schippers, 2006).

Finally, teams can focus on themselves internally, but also on other teams that they interface with as part of a larger system, although they may find other teams more difficult to understand confidently and effectively, because of the increasing social distances involved. Assessing perspective taking in this way contributes to research and practice by helping to understand multi-team systems, team boundaries, and wider workplace interdependencies. Organisations can take advantage of the fact that multiple teams are socially embedded alongside one another to align their perspectives, transform understanding, and inspire constructive meanings and democratic citizenship amongst their team workers (Grant, 2007; Gurin, Dey, Hurtado, & Gurin, 2002; Mathieu, Marks & Zaccaro, 2001).

In sum, in this thesis I highlight the importance of social context and situation for cooperation between diverse teamworking parties and their viewpoints.

3) Perspective Taking and Team Effectiveness

My third major contribution with this thesis is to show how perspective taking can improve team effectiveness as a team engages in a social cognitive understanding or sensemaking of itself via perspective taking. A team perceives diversity in a particular way, and the types of diversity present in the composition of the team and surrounding environment will determine what 'perspective making' can occur, setting the scene for perspective taking efforts (Boland & Tenkasi, 1995; Harrison & Klein, 2007).

I firstly show that perspective taking efforts and conclusions can help ensure the cooperative success of individual team member interactions. Perspective taking helps team members to establish and differentiate clear roles, manage conflicts constructively, and help each other when help or encouragement is needed. In uncertain and complex, diverse team environments, these prosocial outcomes show how perspective taking is vital for supporting situations where team members can show sensitivity and go above and beyond a general call of duty.

In this thesis I also show that team perspective taking is linked to key team outcomes such as the confidence and reflexive decision-making of the team, which also signify a reaping of rewards from diversity by engaging in innovations and high-quality inclusive participation (Lovelace, Shapiro, & Weingart, 2001). With this research I also contribute to the workgroup diversity literature by examining perspective taking as a mechanism that partly explains some of the different effects of different types of diversity (Milliken & Martins, 1996; Van Knippenberg & Schippers, 2006).

I finally show that perspective taking accuracy or effectiveness perceptions regarding one's own team and other teams can positively relate to perceived team elaborations, performance, morale, and helping in a complex organisational environment. I make the contribution of understanding how teams need to carefully balance the social information they engage with internally and externally to sustain confident, effective, and helpful teamwork.

In sum, in this thesis I highlight the importance of team perspective taking for ensuring adaptive, cooperative, and highly effective teamworking behaviour under conditions of uncertainty, diversity, and complexity.

4) Conditions Supportive to Team Perspective Taking

Finally, through the current thesis findings I provide several constructive avenues for training, supporting and managing perspective taking for diverse teams and members of diverse teams. These include emphasising the importance of close interdependent relationships, and potentially setting up powerful encounter experiences where diverse parties can share stories, learning experiences, and working representations (Gittell, 2005; Grant, 2008; Sluss & Ashforth, 2007). The data of this thesis also show that perspective taking is affected by the presence of other team members and their differences/similarities, whose viewpoints might potentially be more keenly considered. Training, mentoring, and contact that enlightens diverse teams and team members about underlying similarities, common ground, and ways to produce higher-quality inclusion of difference might thus be usefully established (Ely & Thomas, 2001; Homan, van Knippenberg, van Kleef, & De Dreu, 2007; Pendry, Driscoll, & Field, 2007).

The antecedents, moderators and mediators of perspective taking examined in this thesis point at sets of work conditions and practices that can support and shape its relations with desirable team outcomes. Team members and teams need to be made to feel comfortable and confident to connect themselves with the social fabric of surrounding perspectives, which requires a social logic every step of the way. This includes providing team members with confidence and a sense of interdependent contribution, paying careful attention to patterns of team diversity on various relevant dimensions, ensuring teams elaborate on what they understand, and spotting opportunities for learning from other surrounding teams.

In terms of systems effectiveness, the relationships in this thesis point managers towards practices such as cross-training, job rotation, multiplex role relationships, superordinate objectives based on similarity, and communication technologies that aid perspective making or representation (Boland & Tenkasi, 1995; Campion. Cheraskin, & Stevens, 1994; Haslam, Eggins, & Reynolds, 2003; Marks, Sabella, Burke, & Zaccaro, 2002).

In sum, organisations need to provide structured, sensible opportunities for linking teams' perspective differences and diversity with deep meaningful aspects of the work, so that task representations and interdependencies are elaborated to incorporate diverse perspectives (Homan et al, 2007; Van Ginkel & Van Knippenberg, 2008).

Chapter 2: Perspectives on Perspective Taking: A Review of Research Approaches

2.1 Chapter Overview

The purpose of this chapter is to present a literature review on the concept of perspective taking, and to link this to the aims of the thesis. Specifically, this involves looking at different definitions and approaches to studying perspective taking. I outline the major aim of the thesis, which is to measure and investigate how situational or state perspective taking operates. I conclude this chapter by stating how the studies in this thesis take a situational approach to perspective taking, defining useful and precise ways of looking at it.

2.2 Perspective Taking: Research Definitions and Approaches

Figure 2.1 shows the main themes of this chapter's literature review regarding defining perspective taking. The figure shows definitions of perspectives themselves, key historical research traditions, conceptual distinctions made around perspective taking, theories, and related but distinct social constructs. All the themes in Figure 2.1 are dealt with further in the sections to follow.

Figure 2.1 Perspective Taking: Key Research Areas, Definitions, and Distinctions
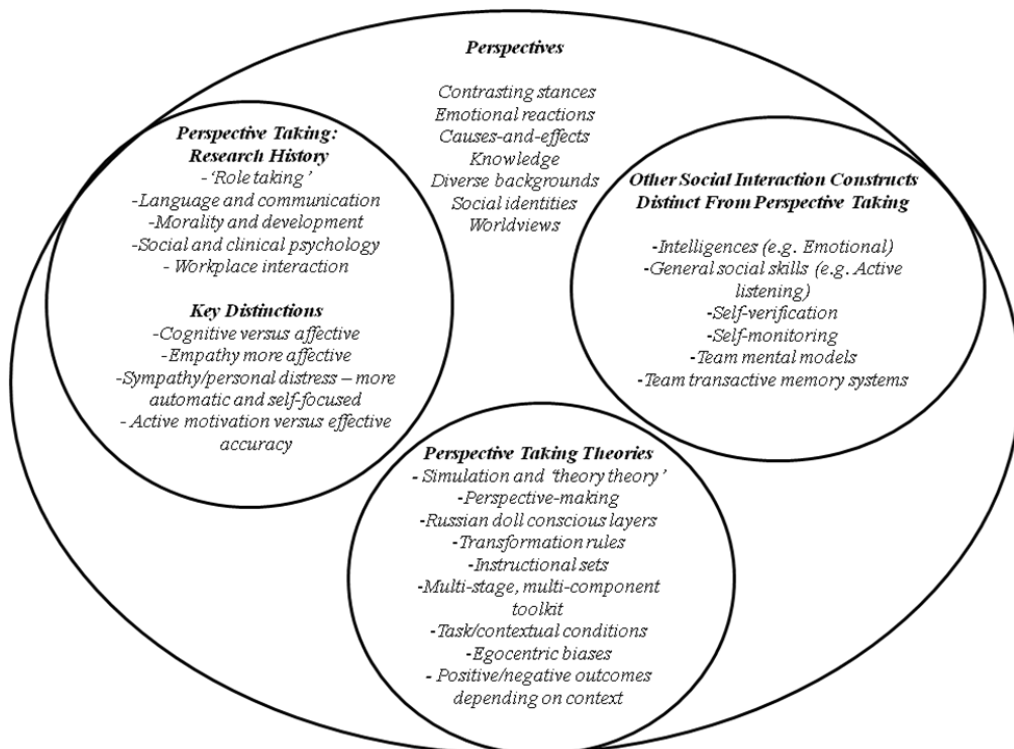
2.2.1 History of the Perspective Taking Construct

      The study of perspective taking, or what was more traditionally referred to as role taking, has its roots in social science from around a century or so ago. In his 1902 work 'Human Nature and the Social Order', the sociologist Charles Horton Cooley developed the idea of the 'looking glass self'; the notion that it is our imagined view of how society and others see us that provides our sense of self, ability to reflect, develop and adapt, feeding back into changing social conditions.

      George Herbert Mead (1934), partly influenced by Cooley, went on to develop the concept of 'role-taking'; a skill acquired in general social interaction. Role taking was discussed as the tendency to try and cognitively understand oneself from the standpoint of a 'generalized other' –the many social parties with whom one would wish to communicate, cooperate, plan, make decisions, and solve problems (Mead, 1934). The philosopher Martin Buber in 1923 also discussed the need for man to relate to the rest of the world by repeatedly attempting to surrender himself and become absorbed in its unity, a dialogue he called 'I-Thou' (Buber, 1999).

      In parallel to some of these developments, Jean Piaget (1932) and Lawrence Kohlberg (1976) theorised about how children and adolescents come to develop an increasingly complex understanding of norms, codes of conduct, close others and authorities in the world around them, outside the boundaries of their egocentric self. These approaches fit clearly with notions of role taking and others socially informing one's sense of self.

      Role taking and perspective taking have always taken a more cognitive emphasis in comparison to the relatively more emotional emphasis of empathy, which gained currency in the field of psychotherapy, as effective therapy was seen partly as the therapist trying to feel their way into the patient's psychological world and temporarily share in it (Rogers, 1961). Throughout much of the latter part of the 20th century, there was a strong focus on empathy, sympathy, and empathic understanding. These latter concepts were characterised by a mixture of cognitive and emotional attempts to try and feel a sense of similarity with other social parties (Katz, 1963; Wispé, 1986).

      Since the early theory on role taking, there has been a fundamental link between understanding perspectives and basic human drives to express potential common ground by internalising the symbolic attitudes and gestures we present to one another (Mead, 1934). In short, perspective taking is intimately connected to how well we feel we're understood, and how well we understand others when they try to communicate.

As a result, a distinct perspective taking research stream has focused on language and communication in the form of an 'audience design' hypothesis (Krauss & Fussell, 1991). If we are physically and/or linguistically co-present with someone, then this acts as a starting point and provides a shared framework or heuristic for referring to a common point of view (Krauss & Fussell, 1991). The audience design hypothesis states that as part of perspective taking, we tailor our communication somewhat in accordance with the background knowledge of others (e.g. describing a strange object versus a familiar one), and this has been supported in experimental task contexts (Fussell & Krauss, 1992). In other words, one behavioural outcome of perspective taking is the tailoring of communications to suit the perceptions of others (e.g. experts explaining to novices). However, this often takes effort, and is biased in the direction of our own perspective (i.e. we often assume others know what we know) (Nickerson, 1999).

Perspective taking also has traditional research associations with how people start to reason with moral issues and expectations as they develop across life domains throughout adulthood (Kegan, 1994; Kohlberg, 1976). Perspective taking ability has been measured in laboratory conditions by using tests of moral reasoning (e.g. the Defining Issues Test) and assessing how even-handedly participants can express principled points on different sides of complex, controversial issues. Gehlbach (2004) defines increasing morality as a particular feature of any perspective taking task, making it more difficult. When engaging in moral reasoning around ethical decision-making, definitions of justice/fairness, and clarifying responsibilities, perspective taking is likely to be important (Trevino, 1992). Perspective taking captures a more realistic, pragmatic process of pinning dilemmas down according to the most accessible key issues and arguments, and the reasons people have for holding them, rather than engaging in impractical philosophical deliberations (Sonenshein, 2007).

Most recently, perspective taking is researched in social psychology, which is a return to its roots, concerning trying to help, cooperate, and coordinate with others in a socially diverse society (Galinsky, Ku, & Wang, 2005). It is important to acknowledge that it is a very broad construct, particularly in the ways that it overlaps with empathy, and the many ways we choose to focus and become absorbed in others (Davis, 1996; 2005).

In social psychological laboratory studies, perspective taking has been promoted by directing the imagination in a particular way that encourages enlightening or novel

reflections, typically accompanied by audiovisual stimulus materials outlining the situation of a very different person from the population under study, or someone in a particular plight (Galinsky et al, 2005). Often it is to simply imagine being 'in the situation of another person' or imagining that you 'are that other person' (Davis et al, 2004). The work of C. Daniel Batson (1991) on the empathy-altruism hypothesis has continually looked at how getting caught up in the stories and predicaments of others leads us to make unselfish, helpful gestures such as monetary donations and giving up free time/resources.

Variants on these other-oriented instructions have also been used to good effect in encouraging compromise, fairer judgements, and more positive attitude change or impressions. These include role playing instructions, instructions to consider opposite information, and instructions to consider counterfactual (what-if, if-only) scenarios (Clore & Jeffery, 1972; Kray, Galinsky, & Wong, 2006; Lord, Lepper, & Preston, 1984). The basic point of inspiration for this thesis is that social judgements do vary quite a lot and that team members and workers can frame their social understandings in variable terms that can be usefully measured and explained.

The most popular survey measure of empathy and perspective taking has been in the form of a multidimensional individual difference or trait self-report – the interpersonal reactivity index (IRI) (Davis, 1983; 1996). The scale consists of four subscales: perspective taking, empathic concern, personal distress, and fantasy. Generally, the first two of these four scales have been linked to helping, forgiveness, cooperation, and lower aggression (Davis, 1996; 2005).

However, although situational factors such as the perceiver-target relation, the type of emotions, and the opportunities to escape are acknowledged in social psychology (e.g. Davis, 1996), situational survey measures of perspective taking, such as state empathic concern and other-oriented attributions, have only been used in a small set of workplace studies (e.g. Parker & Axtell, 2001; Williams, Parker, & Turner, 2007). Many recent field studies in universities and workplaces continue to use the IRI to investigate stable individual differences in perspective taking and empathic concern in a very general fashion (Gurin et al, 2002; Rupp, McCance, Spencer, & Sonntag, 2008).

This trait or individual difference treatment of perspective taking hinders theory development around defining perspective taking. More contextualised questions might be flexibly used in surveys for modelling meaningful perspective taking variations in

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applied settings. This goes beyond understanding perspective taking as a stable capacity rooted in the enduring disposition of the individual. This thesis contains evidence that alternative valid measures can be used in important applied situations like teamworking, measures that in fact capture more of the variability inherent to particular social contexts and surrounding environments.

Overall, within its broader history, perspective taking has been researched in many different ways. It has been "variously defined as a personality trait, as an ability, as a process, and as an outcome; in part, the particular approach typically reflects one's disciplinary orientation" (Parker et al, 2008, p3). In the rest of this chapter I draw upon additional important features of these specific research approaches, particularly those most relevant for explaining perspective taking in social systems and applied workplace settings.

2.2.2 What is Perspective Taking?

A general contemporary social psychological definition of perspective taking is "the process of imagining the world from another's vantage point or imagining oneself in another's shoes" (Galinsky et al, 2005, p100). This is only a general definition and it is apparent that much qualification is needed – what are the 'process' or processes in question? Who is the 'other' in question? Finally, so what? What are the resulting states/behaviours of this process? Most definitions stress that it is a cognitive process that involves focusing on another's viewpoint (Parker et al, 2008).

There are often slight variations in the terminology used, and a particular tendency to fuse empathy and perspective taking, with empathy as a type of perspective taking, or vice versa. For example, a recent comprehensive review of altruism research described 'empathic perspective taking' as "the capacity to take another's perspective – e.g. understanding another's specific situation and needs separate from one's own – combined with vicarious emotional arousal" (de Waal, 2008, p285). The review also describes 'cognitive empathy' as "empathy combined with contextual appraisal and an understanding of what caused the object's emotional state" (de Waal, 2008, p283). Perspective taking and cognitive empathy are generally considered synonyms (Preston & de Waal, 2002).

In the subsequent sections of this chapter I aim to unpack some of these basic definitions and distinctions a bit further, and set up my own boundaries around the

concept as clearly as possible, chiefly for studying it in the workplace with reference to diverse workgroups and their members.

2.2.3 What is a Perspective?

It is worth briefly defining here at the outset of the thesis what a perspective might consist of, although the answer must, by necessity, be very broad. Perspectives are made up of needs, connotations/associations, personality dimensions, and cognitive patterns (Ross & Ward, 1996). This scope might be expanded to include visible information, operational codes, preferences, normative constraints, styles of play, level of resolve, resources, self-images we are trying to present and shared knowledge (Goffman, 1967; 1970). Social cognition would lead us in the direction of cultures, roles, goals, traits, and relationship types (Bruner, 1990).

One implicit assumption in this thesis is that perspectives are flexible and open to persuasion, influence, and transformation. In our worldviews and epistemologies (views of knowledge), we are often biased in assuming that perspectives are relatively rigid, fixed and unchangeable, rooted deeply into enduring aspects of others' characters (Ross & Ward, 1996) Yet this is because we typically underplay the flexible roles of language, labels and construals in modifying and/or accommodating perspectives.

In society we are continually socially constructing perspectives or 'frames' that guide our attention in given situations – for example, if we see someone in a white coat, we may rightly/wrongly start to think of them as being in the role of a doctor or scientist, but if we are watching them in a play, then we know they are really in the role of an actor playing a scientist (Goffman, 1974). Law and literature provide two examples of bodies of perspectives that accumulate in societies over time (Bruner, 2002).

How perspectives are defined is inherently contextual and will inevitably depend in part on the level of analysis and research context of a study. Perspectives can vary in scope from a unique story told by a creative individual through to a set of comprehensive beliefs or ideologies about human nature, the universe, God, free will, knowledge, and action (Bruner, 2002; Koltko-Rivera, 2004).

In this thesis, the study variables and level of analysis shape what is meant by the underlying perspectives and how much they are being taken on board. Typically the proxy for perspectives is in terms of the differences within and between workgroups – the differences in background, demographics, and life experiences of the members

making up a team. Given that perspective taking and empathy are also often described in terms of 'identification' with a target – I would also define perspectives here as social identities; personal and social group memberships that are distinctive to workers' self-concepts (Haslam, 2001; Swann, Polzer, Seyle, & Ko, 2004). In this thesis I allow for the fact that a perspective can be a particular opinion on any contestable issue at work, an emotional reaction, and/or a causal explanation for an event.

In sum, perspectives are the diverse cognitions, emotions, and identities important to group members in context, and therefore perspective taking refers to constructive efforts to engage with these perspectives and effectively understand them.

2.2.4 Perspective Taking and Empathy: Cognitive and Affective Emphasis

Consistent with recent research, in this thesis I consider empathy as being slightly more emotional or affective in emphasis, and perspective taking as being slightly more cognitive in emphasis (Stephan & Finlay, 1999). Empathy and perspective taking are closely related concepts in an overall affective and cognitive experience of engaged feeling and understanding when in the presence of others (Duan & Hill, 1996). The difference is that perspective taking is more cognitive in terms of a detached imagining or top-down understanding process, whereas empathy or empathic concern is more a manifestation or proximal affective outcome of perspective taking, involving distinctive emotional participation and reaction from the subject.

Thus I treat empathy or empathic concern as an affective indicator of perspective taking; a result or sign that another's emotional state is being socially understood, processed, and appropriately responded to. Empathy can be defined as an outcome or manifestation of perspective taking where emotional responses to the target are experienced as a result (Parker & Axtell, 2001). Perspective taking and empathy can be combined as closely overlapping states involved in an overall attempt to comprehend the viewpoint experienced by another person (Davis, 1996).

For example, de Waal (2008) maintains that "psychologists usually speak of empathy only when it involves perspective taking" (p285), but then goes on to also maintain that "perspective taking by itself is, of course, hardly empathy. It is so only in combination with emotional engagement" (p285). Perspective taking has also been described as a top-down cognitive representation of a target's state, and empathy as an attendant perception that results in a change in the observer's affective state in conjunction with the state of the target (Preston & De Waal, 2002).

Thus empathy can be seen as an involved type of 'affective perspective taking' or distinctively emotional experience. Perspective taking has also been described as 'intellectual empathy', again signifying this distinct but related cognitive-affective cross-over (Duan, 2000).

Perspective taking can be differentially concerned with understanding the thoughts versus the feelings of the target. Neurological research has shown that tasks with these differing goals engage different brain regions (Decety, 2005). Social psychological laboratory research has shown that different combinations of cognitive and affective perspective taking tendencies between negotiation partners can differentially affect strategic outcomes of interaction (Galinsky, Maddux, Gilin, & White, 2008). The two types of perspective taking or empathy also engage differing declarative knowledge structures to an extent (Karniol, 1986). The relative use of affective versus cognitive perspective taking will partly depend on the nature of the task and target. For example, perspective taking may involve a greater degree of detached cognitive processing for comforting a profoundly sad target, and a more rewarding shared affective involvement for celebrating with a happy target (Duan, 2000).

On the other hand, a general controversy has abounded about the inseparability of the cognitive and affective elements, and despite the usefulness of the basic distinction, it may represent something of a 'false dichotomy' (Duan & Hill, 1996). Empirically, cognitive and affective perspective taking are often inter-correlated and/or form part of a larger overall experience (Kerem, Fishman, & Josselson, 2001). The general compromise has been to measure both forms in some way, regardless of precisely how distinct or overlapping they are. For example, most researchers consider it important to consider recognised or felt emotions as part of perspective taking, as well as the cognitive explanations or appraisals of a target's predicament (Duan, 2000; Galinsky, Magee, Inesi, & Gruenfeld, 2006; Oswald, 2002).

This thesis overall takes quite a cognitive emphasis in arguing that perspective taking involves a regulation of attention to the roles and characteristics of teams and team members; a general approach to interpreting and understanding social situations at work. However, in the studies themselves, cognitive and affective sides to perspective taking are measured in a distinct but overlapping way via different 'indicator' measures. By testing these different measures simultaneously, in relation to each other and various other variables, the thesis can make some contribution to clarifying how cognitive and affective forms are woven together (Duan & Hill, 1996). However, continuing fine-

grained laboratory research looking at different discrete emotions and competing cognitive strategies will remain important for ultimate resolution of these issues (Davis, 2005).

2.2.5 Perspective Taking: Motivation versus Accuracy/Effectiveness

A key distinction with perspective taking made by several contemporary researchers is whether it concerns motivation or effort versus effectiveness or accuracy. These have been referred to as commitment and performance pathways, respectively, and as propensity and ability, which are both important aspects of a perspective taking act (Gehlbach, 2004). Parker et al (2008) describe 'active' perspective taking as when an observer "tries to understand" (p4), and 'effective' perspective taking as how "accurate, comprehensive, and objective" (p6) this understanding of a target's thoughts and feelings is.

These are distinct but overlapping sides to perspective taking. We would expect a high propensity and motivation in perspective taking to drive to a large extent the ultimate effectiveness of perspective taking, the depth of the insights. Yet separation is also possible. There might be high 'active' perspective taking commitment but low performance effectiveness (e.g. If we care, or are obliged to care about someone deeply but their experiences are very distant from our own and very abstract/complex) (Epley, 2008; Gehlbach, 2004). Conversely, there might be high 'effective' understanding of another party, but little 'active' engagement. For example, after hearing someone's story and comprehending their viewpoint in thorough detail, a competitiveness or complacency may set in, de-motivating further perspective taking. Also, the perspective may just be very simple and transparent, not seeming to require much motivated elaboration – 'someone is very happy because it's their wedding day'.

In this thesis I primarily focus on 'active' perspective taking motivations and displays, although in the final study I additionally look at self-perceptions of effectiveness in relation to different targets. The operationalisation of perspective taking is largely dictated by the relevant study outcomes. Specifically, in the first three studies, I focus on active perspective taking to understand how project team workers try to support each other, committed to finding meaning and value in their interactions and differences.

In contrast, in the final study, I look at how effectively teams perceive that they understand themselves versus distinct, surrounding teams in relation to perceived

performance, helping, and morale outcomes, where the emphasis is more on accurate coordination and information sharing. This data was collected based on an appropriate opportunity to measure perspective taking effectiveness, or 'perceived understanding' as the self-report measure devised is labelled. In that study context, there was the complexity of multiple groups and high cognitive load, and it seemed likely that irrespective of certain motivations, there would be a logistical limit and trade-offs concerning how thoroughly perspective taking could be apportioned out across different targets (Gehlbach, 2004; Roβnagel, 2000; Sonenshein, 2007).

Accuracy per se is relatively difficult to define; but effective perspective taking is likely to involve whatever interpretation can be identified as most familiar, sufficiently comprehensive, pragmatic and advantageous given the social context (Fiske, 1992). In fact, the vagueness of language we use about the minds of others, and how emotions relate to actions, may help provide some flexibility necessary for us to ever reach agreement and mutual understanding (Malle, 2005). Fully addressing the difficulty of assessing perspective taking effectiveness is likely to require coding of qualitative perspective reports, and the triangulation of multiple methods.

In sum, most researchers make the active-effective distinction quite logically. On the one hand, there is a basic 'getting to know' motive for favourable engagements with another party (Ickes, 2003). On the other hand, perspective taking can vary in terms of how effectively it assesses other parties on available evidence: raw transparent or expressive behavioural data, language, intentions, and cause-and-effect dynamics (Karniol, 1986; Malle, 2005).

2.2.6 A Toolkit of Different Pathways and Capacities

In this thesis I decide not to view perspective taking as a unitary phenomenon. Recent reviews of perspective taking have generally concluded that it is a toolkit of different capacities, foci, efforts, and constituent elements (Davis, 2005; Parker et al, 2008; Preston & de Waal, 2002). How perspective taking is defined and understood depends on pathways spanning the aim, the content (cognitive/affective) or information focused on, and the motivation, conclusions, or thoroughness achieved as a result (Davis, 2005; Gehlbach, 2004; Parker et al, 2008).

Reviewing theoretical models of perspective taking confirms a consistency of logic in that perspective taking can take multiple different forms and emerge in interaction according to different stages, pathways or arrangements. For example,

Oppenheimer (1978) devised a cognitive model of perspective taking which included sequentially arranged elements of perspective differentiation, ability or capacity, and additional cognitive and affective content-based skills. The model also emphasises that perspectives are shared and mutual, rarely existing in isolation. The model had content, complexity, and age as important defining axes.

Kerem et al (2001) reviewed multistage models of perspective taking in their qualitative research into everyday experiences of empathy. They argue that cognitive and affective elements are often simultaneously balanced and integrated within an overall process. The overall process consists of noticing cues from the other, identifying with the other and their feelings, and then a final restoration of self as conclusions about the interaction are made. This sequential involvement and then detachment is common in psychotherapeutic models (e.g. Katz, 1963).

It's also the case that perspective taking or empathy can be felt, then demonstrated, then judged by parties involved in the interaction (Silvester, Patterson, Koczwara, & Ferguson, 2007). In her narrative theory of empathy, Keen (2006) argues that writers and readers of novels have multiple reactions to the material: they use *bounded* empathy for ingroups, *ambassadorial* empathy for targets outside an ingroup, and *broadcast* empathy for returning perspective issues to common, humane, universally shared ground.

Finally, Davis (2005) has formulated a very comprehensive model of perspective taking 'constituents'. These constituents form chains of 'aim-information-process-results'. Aims involve the cognitive and affective goals of the situation, information involves the aspects of the social environment or experiences in question, process involves use of imagination and logic, and results involve everything from attributions to emotional reactions and prosocial behaviour (Davis, 2005).

I build on these theoretical developments and extend them to workplace settings by separating different indicators of team member and team perspective taking and relating them to surrounding traits and group process. In this thesis I particularly incorporate the aim-information-process-results elements from Davis' (2005) model, mainly by looking at motivation or effort, diverse target information available in the work environment, as well as cognitive/affective processes and results. Furthermore, these elements generally cover the major thematic ideas of initial effort and differentiation, cognitive versus affective focus, and conclusions/reactions that are common to the other models described here.

2.2.7 What Perspective Taking is NOT

Perspective taking as defined and measured in this thesis is argued as being distinct from: sympathy, emotional intelligence, social skills, self-verification, self-monitoring, team mental models and transactive memory systems.

Firstly, the affective empathy that forms part of perspective taking is not the same as sympathy. Empathy and sympathy have been confused over time, but typically sympathy is considered more hard-wired, passive and involving an automatic matching of emotional reactions where empathy is more active and flexibly understanding. With empathy, the emotional experience can be consciously regulated via perspective taking, and not necessarily just a match (Davis, 1996; Preston & de Waal, 2002). In a paper specifically about this distinction, it was concluded that sympathy is about alleviating someone's plight, about approving of their worth and relating to them in a vulnerable sense (Wispé, 1986). Empathy on the other hand takes for its goal the subjective knowing and understanding of someone else's experience, it is more clearly about controlled understanding than sympathy, and as a result, has come to overtake sympathy in popular study to an extent (Wispé, 1986).

Sympathy is a more automatic feeling of sorrow or apprehension, as is *personal distress*, a self-focused aversive reaction, which usually leads to selfish behaviour (Eisenberg, 2000). Sympathy and personal distress are likely to bypass empathy, sympathy generating some general altruistic concern, but distress generating egotistical avoidance (de Waal, 2008). The general consensus seems to be that sympathy is more about feeling 'sorry for' others rather than truly identifying with their perspective. Instead, the focus with sympathy is on their situation/plight rather than their psychological and physical states per se (Preston & De Waal, 2002). Empathy is more active, imaginative and experimenting; with sympathy, more self-focus is retained (Katz, 1963).

To summarise, both empathy and sympathy are engaged emotional responses and appraisals that occur in the presence of others, leading to potential concern and/or helping. However, sympathy appears to be seen as more self-focused, automatic and concerned with the situation of the target, rather than the actual subjective experiences of the target. Sympathy has been described as relatively more passive, dependent on similarity, and less on active efforts to understand. Sympathy has also fallen into a slight state of disuse in psychological research, being replaced by the more emotionally

flexible, actively engaged concept of empathy. Thus this thesis will really only refer to empathy or empathic concern, given its more popular usage and much more significant overlap with the concept of perspective taking as trying to understand the subjective viewpoints of others (de Waal, 2008).

Perspective taking is not the same as emotional intelligence, which can be seen as a broader, more enduring ability to regulate and understand emotions. 'Intelligences' generally refer to enduring competencies that are built up through distinct experiences and learning (Côté & Miners, 2006). In relation to perspective taking, intelligences may serve as individual difference moderators that guide perspective taking attempts where specific content (e.g. emotional) is involved. The same goes for other interpersonal skills such as communication and active listening. Klein, De Rouin, & Salas (2006) proposed a classification of 12 workplace interpersonal skills under the two broad headings of interpersonal communication and relationship-building. Perspective taking could be placed in this classification scheme, although it is defined here as a particularly distinct situational type of attentional focus, with a socio-cognitive depth and breadth that extends beyond simple (non)verbal manifestations of social skill that develop in individuals over time. This is not to say perspective taking doesn't relate to other interpersonal skills and behaviours; indeed, some of the data in this thesis will show it has complex reciprocal relations with them.

Perspective taking is not what has been described as self-verification, which refers to the open acknowledgement of other people's views of themselves (e.g. Swann et al, 2004). Perspective taking is likely to be antecedent to, and broader in manifestation than self-verification. Perspective taking would have to occur before self-verification, insofar as to verify another person's view of themselves, we would first have to attend to and recognise what that self-conception was. Perhaps more importantly, perspective taking is broader than self-verification because it doesn't simply involve others' views about themselves and their self-conceptions. Perspective taking is more general and can involve theorising and attention to aspects of other's environments and responses to ongoing issues. A person can have a perspective on a conflict, various situations, other people, and so perspective taking involves more complex reasoning than just confirming the egos of others, although that certainly may be a part of it.

Similarly, perspective taking is not the same as the concept of self-monitoring, which refers to adjusting one's conduct guided by situational cues to social

appropriateness (Schwalbe, 1991). Although self-monitoring would partly be expected to involve monitoring how others react to how we present ourselves, this would be more of a special case of perspective taking revolving around how others see us. Perspective taking can obviously involve monitoring anything occurring in the life space of another person, which needn't involve their reactions to us at all. Indeed, some research has shown that self-monitoring is negatively correlated with perspective taking, and that high self-monitors may rely on basic scripts and images rather than in-depth perspective taking (Schwalbe, 1991) Furthermore, self-monitors may not be truly motivated to understand others at all, let alone for prosocial reasons, rather just please them and re-construct their images in line with pressing egocentric needs (Gollwitzer & Wicklund, 1985).

Finally, perspective taking is not the same as a team mental model or transactive memory system. A team's levels of perspective taking may lead to more overlap in team mental models as an outcome, and/or team mental models may inform perspective taking to some extent. However, whereas team mental models and transactive memory focus on specific content-driven schemas about the team's structure and more static cognitive divisions of labour (Kozlowski & Ilgen, 2006); team perspective taking refers to a more dynamic, general, domain-free social capacity that addresses flexible, engaged interpretations of group life. In contrast to mental models and transactive memory, perspective taking can cover more dynamic aspects of team interactions like reactions, explanations, and identities. Rather than focusing on cognitive divisions of labour, perspective taking is a more flexible interpretation of a teamwork situation, involving attending to the broader life experiences and preferences that come into focus in particular situations (Huber & Lewis, 2010).

2.3 Theoretical Developments Concerning Perspective Taking

Many areas of psychology, social psychological research in particular, have looked at theoretically and empirically refining the notion of a perspective taking process, trying to break it down, and often raising new controversies. These issues are reviewed here, in relation to the aims of the current thesis.

2.3.1 Self-Other Merging

An ongoing controversy around perspective taking is whether or not there is a complete subjective 'merging' with the target where one in fact 'becomes' the other

person versus an objective, professional detachment where the viewpoint of the other person is theorised about and its separateness maintained. Experimental work has shown that we can rate others as highly similar and show reaction time latencies to differences 'as if' they were us (Aron, Aron, Tudor, & Nelson, 1991; Davis, Conklin, Smith & Luce, 1996). On the other hand, this has not always been replicated, and reaction latencies or perceptions of similarity/overlap need not always mediate empathy's relations with behaviour (Batson et al, 1997).

Most researchers would generally agree that self-other merging is a variable cognitive outcome of perspective taking that need not necessarily occur for it to be successful (Davis, 2005; Katz, 1963). This debate also corresponds to 'simulation' and 'theory theory' approaches; i.e. whether we simply theorise about others, or we actually simulate what it is like to be or become them. In all probability, we use a mixture of simulation and theory; driven by brain areas serving linguistics, inhibition, attention, working memory, and other executive functions which all feed into the complex development of a 'theory of mind' (Malle, 2005). Some aspects of perspectives (e.g. basic emotions) may well be universal, whereas others may be much more dissimilar and relatively excluded from the self-concept (e.g. particular life experiences of loss, challenge) and require careful other-oriented attention and imaginative use of knowledge structures (Karniol, 2003).

In this thesis I don't take a particular stance on unravelling this self-other problem, which is essentially deeply philosophical and difficult to explicitly measure. Rather, the working hypothesis is to accept that multiple processes operate simultaneously, and to try and model in context how a combination/hybrid of information about workplace targets and people/situations in general can all contribute to a perspective taking process (Davis, 2005; Malle, 2005).

2.3.2 De Waal's Russian Doll Model

Recent research has reviewed and integrated ideas that perspective taking subsumes a range of conscious and non-conscious processes, varying in scope and content (Davis, 2005). De Waal (2008) outlines a 'Russian Doll' model of empathy and imitation. At the core, there is an automatic tendency for a perception-action mechanism (PAM) to kick in – our nervous system is activated by shared human responses that we recognise and feel compelled to act on by imitating them. Moving outwards from the core, the processes become more conscious, and self-other distinctions more carefully

attended to, in terms of coordination, shared goals, and concerned emotional responses in particular situations. In this model, perspective taking is at the outermost layer, reflecting a well-controlled process where we understand that others are different from ourselves, but are able to feel involving emotional concern for them, and tailor our behaviours to provide useful help (De Waal, 2008).

In this thesis I build from this model, treating perspective taking as a conscious process of positively regulating interactions with distinctive others, to ensure successful cooperation and coordination.

2.3.3 Transformation Rule Approach

Another theoretical development and approach is that of transformation rules, which describe how we use procedural and declarative rules of varying hierarchical complexity in cognitive knowledge structures to predict how raw stimuli are 'transformed' into experiences/responses by others (Karniol, 1986). The distinctions between ten of these rules, the depth/existence of the hierarchy, meaningful cognitive-affective variations, and fair consistency in rule use across subjects have all been empirically supported by laboratory work (Karniol, 1986). An example of a low-level rule would be to simply place another person's viewpoint in terms of a goal, category, or event schema, whereas an example of a higher-level rule would be to understand another's viewpoint in terms of memories, relationships, and interpersonal dynamics (Karniol, 2003).

In this thesis, I don't directly use a transformation rule approach, but draw on it in two main ways. Firstly, the frameworks of study variables acknowledge that team members aim to systematically gather and process information from their social environment (e.g. diversity, roles, situational causes). Secondly, the final study includes a measure of 'perceived understanding', which assesses how thoroughly the thoughts/feelings of other teams are understood. This measure acknowledges that importance of a depth of knowledge about the thoughts/feelings transforming how other teams and their members respond to their environment.

2.3.4 Antecedent and Moderating Conditions Surrounding Perspective Taking

Social psychological laboratory work and research in educational settings has identified a key set of contextual conditions that affect perspective taking and its

associations with outcomes. These include interdependence, self-esteem, goals, power, cognitive load, and individual characteristics.

Laboratory and educational classroom studies have shown that relatively small, interdependent groups who cooperate with close reliance have been linked to higher levels of perspective taking (Johnson, Johnson, & Smith, 2007). A cooperative task context induces perspective taking in a variety of ways; by creating overlapping goal regions for team members to enter, by allowing diverse contributions without the ego-threats of individual competition, and by promoting specialisations and role flexibility (Gehlbach, 2004). In short, if inputs are required from others to complete a piece of work, then their perspectives will be deemed valuable for attention and engagement.

Higher trait and state self-esteem can support perspective taking associations with outcomes of improved attitudes and evaluations towards members of other social groups (Galinsky & Ku, 2004). Conversely, laboratory research has also shown that if our self-esteem comes under threat and we are given a concern that we need to address, we will also quickly turn away from, or even against, others in order to process and heal our own egocentric wounds or insecurities, somewhat selfishly dominating an interaction (Gollwitzer & Wicklund, 1985). In embarrassing situations (e.g. difficult tasks and poor performance), participants observed by others are influenced by a 'spotlight effect', where we overestimate how harshly we will be judged by others (Epley, Savitsky, & Gilovich, 2002). Trait and state self-awareness or self-consciousness leads people to overestimate how transparent their situation is to others, a form of impaired perspective taking (Vorauer & Ross, 1999).

In face-to-face interactions high perspective taking for outgroup members can actually have the ironic effect of activating metastereotypes where people become more aware of negative stereotypes between groups and thus derogate an outgroup member more, not less (Vorauer, Martens, & Sasaki, 2009). This is because it heightens people's awareness that they are potentially being evaluated by an outgroup member, and the negative ways this might occur. In sum, any concern or awareness that might direct more focused attention towards the self carries a risk of weakening perspective taking and its beneficial effects on social judgements and behaviours.

Setting people goals to put others in a positive light has been found to help them to consider perspectives in more depth than they might otherwise (Malle, 2006). Providing precise, viable goal plans to explicitly be prosocial and listen to or help others without getting thrown off track by egocentric distractions such as mood or workload

can help protect a perspective taking goal, linking the good intention to desirable behaviours more strongly (Gollwitzer & Sheeran, 2006).

A series of laboratory studies has shown that people who consider themselves more powerful are poorer at taking into account another's knowledge, their visual perspective, and their emotions (Galinsky et al, 2006). Feelings of powerlessness have also been found to decrease perspective taking via metastereotyping; an insecure negative bias concerning how other groups might stereotype our own group (Lammers, Gordijn, & Otten, 2008).

It is also generally accepted that cognitive load and distractors in a task environment will reduce the effectiveness of a perspective taking attempt (Gehlbach, 2004). A study by Roβnagel (2000) showed that under dual task conditions of cognitive load, participants were less effectively able to communicate task instructions whilst taking into account the perspective of the recipient. Researchers have also shown that where calibrated, the greater the quantitative distance between someone else's viewpoint and our own, the more cognitive effort it takes us to serially adjust, improving with accuracy incentives, and worsening under time pressure (Epley, Keysar, van Boven, & Gilovich, 2004). People who expect a forthcoming interaction to be pressurised, particularly demanding or conflict-laden will feel less motivated to perspective take (Steins, 2000).

There are also several major individual differences that can be expected to moderate perspective taking effects. One is other-orientation, or the ability to suspend self-interest to process social information and take it on board in terms of decision-making, receiving feedback etc. (Meglino, & Korsgaard, 2004). Another is the Big 5 personality trait of agreeableness; our desire to get along with others in warm, courteous interactions, affecting perspective taking relations with altruistic helping behaviour (Graziano, Habashi, Sheese, & Tobin, 2009). Finally, there is research showing that creatively inclined people, such as authors and voracious readers, exhibit heightened empathy and perspective taking-related outcomes (Keen, 2006).

Whilst I don't aim in this thesis to catalogue individual differences or finely manipulate participant states to impact perspective taking relationships, there is an aim to identify analogous workplace conditions and norms that have similar effects, but might be more amenable to change and pragmatic intervention. For example, different types of team diversity might relate to different types of self-esteem threat or

cooperation, and different task interdependencies within and between groups might affect the motivation of team member perspective taking.

2.3.5 Positive versus Negative Outcomes

When a task context is more manipulative and/or competitive rather than collaborative (e.g. politics, sales work as opposed to team work), perspective taking may not be an easy or appropriate route to curing social ills. Goffman (1970) details examples of competitive sporting/gaming events and espionage where perspective taking is used for selfish, strategic means. Another body of work shows that on competitive tasks and negotiations in the laboratory, perspective taking can heighten a sense of cynicism, suspicion, and a reactive egoism for self-serving purposes, some parties getting manipulated and others opportunistically manipulating them (Epley, Caruso, & Bazerman, 2006; Galinsky et al, 2008).

Some negative side-effects may be unintentional, such as a heightened awareness of stereotypes to the point that people imitate or play up to those stereotypes, or become paranoid and defensive about them (Galinsky, Wang, & Ku, 2008; Vorauer & Sasaki, 2009).

On the other hand, perspective taking self-reports have failed to show positive relationships with self-monitoring or Machiavellian behaviours, and remain consistently associated with cooperation (Johnson et al, 2007; Paal & Bereczkei, 2007; Schwalbe, 1991).

In this thesis, I acknowledge that sometimes perspective taking may add little value to outcomes or may have reduced impact under certain conditions, but the overriding focus is on cooperative, prosocial teamwork. It seems that the negative darker side to perspective taking has yet to be sufficiently substantiated, seemingly limited to very competitive laboratory contexts or artificial interactions with singular, strong stereotyped differences between perspective taker and target.

2.3.6 Egocentric Biases

Perspective taking is a very positive process, but is beset on all sides to some degree by egocentric biases. The egocentric perspective most familiar to someone, from their personal life experiences and their defining group memberships, is often a default option obscuring viewpoints emanating from elsewhere or making them difficult to comprehend.

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A few examples from social psychology research are as follows. When we communicate something to new people, we still tend to assume they will understand us relatively easily, possessing similar background knowledge to ourselves and those already close to us (Fussell & Krauss, 1992). There is a tendency for participants to project their own perspective erroneously onto others, and to insufficiently adjust from the anchor of their own viewpoints (Epley, 2008; Nickerson, 1999). Entire groups often converge in an ethnocentrically biased fashion on information or perspectives that are shared, repeated, mentioned, confirmed in any way by the group to the neglect of unshared, disconfirming viewpoints (Stasser, Vaughan, & Stewart, 2000; Van Swol, 2007). Generally, this is where knowledge becomes a curse, as people over-emphasise similarity, simplicity, availability, and false consensus or 'naïve realism' regarding the information that passes between them and others (Ross & Ward, 1996).

Attributional biases also tend to be self-serving and egocentric – observers tend to make more favourable, complex causal attributions about themselves, and less favourable, cruder attributions about other targets (Malle, 2006). This 'correspondence bias' or 'fundamental attributional error' is well-researched and supported, and indicates the prominent tendency to make more lenient situational attributions about the causes of our own behaviours versus more rigid, simplistic dispositional attributions about the causes of others' behaviours (Epley et al, 2002).

In this thesis I invert these biases from the outset, arguing that to a fair degree, perspective taking, by its very definition, marks their relative absence. For example, perspective taking instructions have been shown to reverse the fundamental attribution error, tailor language/knowledge to aid other's understanding, and to raise awareness that others are affected by situational pressures (Fussell & Krauss, 1992; Moore, 2005; Regan & Totten, 1975). Other related solutions to egocentric perspective biases include reflecting/paraphrasing ideas, careful management of initial verbal exchanges, drawing attention to subjectivity and uncertainty, and correcting for hindsight biases by elaborating more on information provided (Nickerson, 1999). Forewarning people they may have critical, unique, unshared information to put forward can help establish social validation of their expertise, as can publicly declaring some level of expert role assignment before a discussion begins, so that 'hidden' unshared perspectives are more likely to get across (Stasser et al, 2000).

In this thesis I aim to build greater understanding of these more careful, intersubjective information sharing processes revolving around definitions of

perspective taking. The pitfalls of egocentrism in workplace teams are captured by the different degrees of ethnocentrism associated with workplace perceptions and norms, types of diversity, and understanding one's own team versus other teams.

2.4 The Current Approach: Perspective Taking Indicators and Referents

Incorporating the previous research reviewed here, in the current thesis perspective taking is researched according to a toolkit approach. This involves varying the concepts, indicators and referents specified in survey self-report measures aimed at team workers. Firstly, a tripartite model of distinct motivational cognitive and affective perspective taking forms is developed. Secondly, a measure that assesses the target referent of perspective taking (i.e. own team versus other teams), as well as how accurately and comprehensively those targets' thoughts and feelings are felt to be understood is developed.

Turning first to the three motivational or 'active' indicators of perspective taking, they are further divided into one 'process' indicator and two 'results' indicators: *perspective taking effort* as the process indicator, and *empathic concern* and *positive attributions* as the results indicators. Note that they are referred to as indicators rather than dimensions to signify that they only loosely comprise a larger phenomenon; they are more distinct from each other than 'dimensions' that systematically and uniformly comprise an orderly whole. The three indicators capture an active engagement with the thoughts and/or feelings of others. They are briefly defined here, but the concepts are developed and justified more fully in chapter 4 of this thesis.

Perspective taking effort refers to a self-reported motivational tendency for team members to try and understand the thoughts and feelings underlying differences in viewpoint as they first encounter them. This scale is placed as capturing an initial processing channel for all perspective taking in assuming that it arises or begins when a team worker encounters someone with a viewpoint that contrasts, opposes, or weights/values something differently from how they themselves would construe it. It is drawn primarily from research on 'active' perspective taking, perspective taking commitment, and adjustment efforts in various task situations (Epley et al, 2004; Gehlbach, 2004; Parker et al, 2008).

Empathic concern refers to a self-reported motivational tendency for team members to try and respond with care, some shared emotion, and compassion to the problems and pressures of other team workers as they encounter the different emotional reactions associated with their viewpoint. This scale is placed as an affective result of

the initial effort process, whereby team members try to manifest a contextually supportive emotional reaction towards others after some initial attempt to understand their different reaction. It is drawn primarily from related social and workplace research on empathic concern and helping others (e.g. Batson et al, 2007; Parker & Axtell, 2001).

Positive attributions refers to a self-reported motivational tendency for team members to try and cognitively construct other-serving situational explanations for the behaviours of other team members. This scale is placed as a cognitive result of the initial effort process, which involves recognising situational constraints (e.g. workload, deadline) and crediting efforts, rather than blaming others' personalities in a stable, rigid fashion, which is less favourable and less constructive, and constitutes part of a 'fundamental attribution error' (Ross & Nisbett, 1991).This scale is drawn primarily from workplace research on positive attributions and cooperative behaviour, intellectual empathy, and research showing that perspective taking reverses the fundamental attribution error, increasing an appreciation of shared situational constraints (Duan, 2000; Moore, 2005; Parker & Axtell, 2001; Regan & Totten, 1975).

Finally, *perceived understanding* refers to a self-reported assessment of how thorough team members' knowledge is regarding how their own team or other teams think/feel. This scale is placed in parallel to the three motivational indicators above, as part of a separate 'effectiveness' or 'performance' pathway distinguished in perspective taking reviews (Gehlbach, 2004; Parker et al, 2008). The scale attempts to assess how confident a team and its members are about how accurately and comprehensively they understand the priorities, language, and knowledge/skills of the target on the cognitive side, and the target's moods and attitudes on the affective side. Thus the scale has two items, one cognitive and one affective, and the second key component to each item is the referent; who is the target? In this thesis the target is either one's own team or another team in the wider system, perhaps working in a different department. The rationale for this measure derives from research arguing that perspective taking accuracy for targets can vary according to how difficult or familiar their perspective is (Gehlbach, 2004; Ickes, 2003), the research tradition proposing that perspective taking can lead to more balanced outgroup evaluations (Galinsky, 2002), and research showing that perspective taking makes use of knowledge structures that vary in how thorough or detailed they are (Karniol, 2003).

2.5 Summary

In summary, there has been a long tradition of examining perspective taking within topics of communication, morality, development, and cooperative helping. One consequence of this has been a confusing array of theories and definitions. In this thesis I define perspective taking as: *the effortful and effective understanding of diverse cognitions, emotions, and identities tied to particular targets in particular situations or contexts*. Thus I consider it as a situational process that involves active efforts by an individual or group to take the viewpoint of another individual or grouping, as well as the actual understanding and comprehension of that perspective. In this thesis I focus primarily on reported indicators of active perspective taking efforts, positive attributions, and experienced empathy. I focus on actual understanding to a certain extent by using one study to ask teams to report how well they understand their own viewpoints versus those of other teams. Whilst perspective taking has some parallels with other social interaction concepts, it is a distinct construct, worthy of focused attention in its own right.

Chapter 3: Perspective Taking in the Workplace: Relevance and Applications to Team Work

3.1 Chapter Overview

In this chapter, with a clear understanding of perspective taking in mind from the previous chapter, I aim to explain how it is relevant to the workplace. This involves reviewing existing workplace research and areas that have been neglected. Specifically, I link perspective taking to issues of effective teamwork and team diversity, and how perspective taking is key to understanding these issues. I also outline the key questions I am trying to address in the remainder of the thesis, and how my studies map onto them.

3.2 Why Research Perspective Taking in Organisations and Workplaces: General Practical Importance

Perspective taking is important within an organisation because there is no one single perspective. Various groups of stakeholders represent a set of major perspectives to be considered: team workers, financiers, customers, suppliers, leaders, and other communities (Phillips, 2003). Teams, departments, and diverse groups have their own 'thought worlds' and identities that act as interpretive barriers, selectively filtering information and creating representations of workplace reality from their points of view (Dougherty, 1992; Gittell, 2005; van Knippenberg & Schippers, 2006). Individuals too have different perspectives according to their backgrounds and experiences.

Thus one of the central questions of this thesis is to identify when and how perspective taking can lead workers to behave more rationally, flexibly, and adaptively in complex social environments. The workplace literature that explicitly addresses perspective taking is recent and relatively scattered, sometimes treating perspective taking only as a trait or individual difference, when the reality is likely to be far more contextualised. In this thesis, I aim to address that gap by looking at how perspective taking might operate differently as a function of different group experiences, teamworking and diversity.

Perspective taking is vital for ensuring that people can work together successfully in ongoing relationships. There will be differences of opinion, conflicts of interests, stakeholder dilemmas and the like that need to be resolved, repaired, and trust restored so that outcomes can be reached. Team perspective taking in effort and capacity is a show of good faith that this can be achieved. If negotiations and decisions

have to be reached, perspective taking will keep team members alert to concessions, mutually beneficial solutions, pros/cons, and high-quality, comprehensive alternatives.

Perspective taking is also practically important for fostering citizenship and going above and beyond the call of duty where team workers see fit. Backing other workers up, giving them the benefit of the doubt, and providing encouragement and support are valuable behaviours that are probably only largely noticed and seized upon through sensitive perspective taking acts.

In this thesis I build on and extend growing workplace research treating perspective taking as a state-like capacity that varies across time and contexts, stemming from a disposition or trait that provides a baseline that varies across individuals. The former state aspect is thus more amenable to practical training and development initiatives, whereas the trait aspect may need to be carefully selected for when new team workers are recruited. Practically, HR departments should think about how to select, train, and develop types of perspective taking for key team working roles.

There is clear evidence showing that perspective taking awareness varies in terms of how aware departments, teams and their members (e.g. suppliers, frontline, functional teams) are of each other's performance, need to cooperate, and task experiences (Gittell, 2005; Weick & Roberts, 1993). The dynamic nature of perspective taking means that social information can be considered from a broad variety of sources, and this has macro influences throughout an organisation. If managed and tracked carefully across the wider organisation, team perspective taking can speak to viewpoint-based issues such as downsizing, merging, stakeholders, strategy and mission/culture.

Team perspective taking underpins mutual symbolic communication between different departments (e.g. R&D announcements) in clear forms like stories and diagrams that promote interdisciplinary understanding (Boland & Tenkasi, 1995). Interdisciplinary conceptions of knowledge can create new understandings and meanings for work within cross-functional project teams. Acknowledgement of team workflow interdependencies can enrich boundary relationships in multi-team systems and enhance wider patterns of coordination.

In sum, perspective taking in the workplace has recently been reviewed as a fundamental human social process underlying many desirable forms of organisational behaviour, including outcomes such as helping, citizenship, mutually beneficial negotiations, effective emotion regulation, reduced stereotyping and a general awareness of social complexity and meaning in one's work (Parker et al, 2008). It has

also been discussed as a situated social aptitude, the motivation and capacity for which can be improved via education, training, and careful management of the cooperative and relational work context (Gehlbach, 2004; Parker et al, 2008).

Perspective taking is generally associated with effective clarity of workplace communication between different groups and communities of knowing, as well as an effective pragmatism of moral reasoning in the workplace, as mentioned earlier in this introduction (Dougherty, 1992). In positive psychology, it has been generally associated with creating and maintaining positive work relationships, where conflicts are learned from, trust is built/repaired, justice is pursued, and social capital spreads quickly (Dutton & Ragins, 2007). Finally, perspective taking offers a dynamic, broad conception for explaining how teams can bring relevant information to the table and understand their internal environments (Huber & Lewis, 2010).

Figure 3.1 below outlines the research areas reviewed in the remainder of the chapter, describing perspective taking in terms of workplace context, outcomes, gaps, and contributions addressed by the current thesis and its studies. All the details in Figure 3.1 are dealt with further in the sections to follow.

Figure 3.1 Perspective Taking: Workplace Relevance and Contributions of Thesis Studies
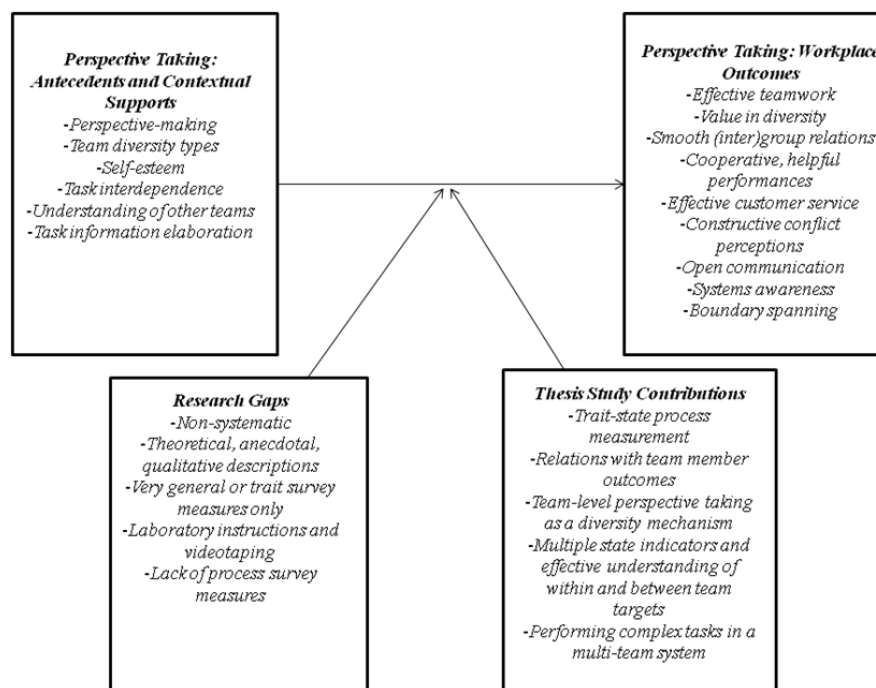
3.3 Studies Linking Perspective Taking to Successful Work Interactions and Outcomes

There is a growing body of empirical research carried out in organisational field settings linking perspective taking in a positive way to productive, cooperative, and sustainable workplace interactions.

Parker and Axtell (2001) found that the degree to which frontline employees took the perspective of their suppliers – in the form of empathy and other-serving attributions – was predicted by relevant job design characteristics (e.g. autonomy), and related to team leader ratings of performance and cooperation. In developing theory on boundary spanning roles, perspective taking was highly implicated in producing cooperative trust-based interactions rather than ones based on threats. Specifically, consultants were described as anticipating clients' reactions to hypothetical actions and acknowledging their values and situational appraisals, safeguarding delicate relationships above and beyond contractual reassurances (Williams, 2007).

A small set of studies have looked at perspective taking in teams. In a study of team conflict, higher self-reported perspective taking tendencies among team members were associated with perceiving conflict in more constructive, task-based terms as opposed to more destructive personal and relationship-based terms (Sessa, 1996). On the other hand, Williams et al (2007) found in a study of manufacturing teams that work style dissimilarity was negatively related to perspective taking (again measured here as empathy and positive, other-oriented attributions), but also that work style *similarity* and age dissimilarity interacted to produce a pronounced negative relation with perspective taking. This shows that perspective taking is particularly sensitive to patterns of team diversity, which can represent a challenge or an opportunity, something explored in the second study of this thesis.

A few studies have looked at how perspective taking relates to successful customer service interactions. Amongst call centre employees, self-reported customer perspective taking was found to relate to self-reported and manager-rated helping behaviours, and in the case of self-reported helping, empathy mediated this relationship (Axtell, Parker, Holman, & Totterdell, 2007). A study of bank tellers found that individuals who were dispositionally higher in trait perspective taking were better at not resorting to surface acting (emotionally 'faking it') when treated unjustly by customers, and more able to deeply comply with emotional display rules in a well-regulated fashion (Rupp et al, 2008). In a study of would-be physicians taking an assessment centre, assessors and patients rated physician candidates in terms of how much empathy they demonstrated. These empathy ratings were related to behaviourally-anchored verbal

competencies that were coded, namely being able to communicate openly, reassuringly, and to elicit information readily from the patient (Silvester et al, 2007).

Perspective taking is also implicated in qualitative work on patterns of coordination that spread across complex organising systems of interlocking teams and departments. Dougherty (1992) describes the importance of understanding different departmental 'thought worlds' during product development and innovation processes. Weick and Roberts' (1993) talk about 'heedful interrelating' as the understanding of interlocking teams and role perspectives on aircraft carriers. Boland and Tenkasi (1995) emphasise the importance that communities holding specialised expertise (e.g. in knowledge-intensive firms) do their utmost to try and understand each other's symbols, stories, and cultures, and that this ongoing symbolic communication constitutes perspective taking.

In sum, there has been a slowly-growing range of workplace research looking at perspective taking in workplaces, albeit not very systematically, variously using idiosyncratic coding schemes, generic self-report measures, rich qualitative descriptions or basic individual difference items. Nevertheless, the message is powerful and clear – perspective taking plays a role in promoting and sustaining successful workplace interactions and outcomes, including cooperative teamwork, helping, effective customer service behaviours, boundary spanning behaviours, and systems thinking.

In this thesis, I build on the well-established links between perspective taking and prosocial outcomes, but generalise to situations of cooperative teamworking in the workplace. I study outcomes such as helping behaviour, morale/confidence, and conflict management behaviour, both for the cooperation between team members themselves, and within entire teams. Perspective taking is important in this regard because it adds to our understanding of how organisational actors can adapt, reflect, and adjust relationships for mutual benefit with those around them (Grant, 2007). The concept of perspective taking has almost always been defined in relation to its concern with finding symbolic common ground to nurture cooperative endeavours (Mead, 1934).

I look at workplace perspective taking in terms of distinct motivational indicators, the effective understandings achieved, the diverse nature of the target within a work system, and the particular situation of cooperative teamwork.

3.4 What is Perspective Making?

Perspective making is defined here as the process whereby perspectives are voiced, modified, and expressed as recurring inputs to perspective taking. In order for perspectives to be taken seriously, processed, and understood, they need to be communicated and expressed as diligently as possible. The philosophical stance of constructivism, often drawn on in social cognition research, claims that there can be many possible perspectives according to the people that come together and construct them (Bruner, 2002). Typically, perspectives are made as we come to grips with language; we're socialized into working communities, switch between acceptable codes/languages/discourses, and look for pieces of evidence that confirm one another (Fiske, 1992). Diverse individuals may desire to be both distinctive, but at the same time represent a particular group or team, and their impression management tactics will reflect this as they construct their own personal and professional images for audiences (Roberts, 2005).

The idea that workplace perspective making and perspective taking occur in cycles has been explicitly analysed and discussed by Boland and Tenkasi (1995), who maintain that organisational groups need to strive via technology and contact to have their specialised perspectives made known. An organisational sensemaking perspective would also argue that when actions and explanations come first, they act as a fuel and impetus for further adaptive interpretation (Weick, 1995).

In this thesis I acknowledge perspective making as an antecedent or component to perspective taking in two ways. Firstly, a longitudinal study looks at reciprocal links between team member states/behaviours and perspective taking, in order to show that ongoing activity and perception can support and refine perspective taking acts. Secondly, in all studies I carefully examine various perspective taking referents (e.g. other individual team members, diversity, own team versus other team) to acknowledge which perspectives might be salient and made known to would-be perspective takers in the first place.

3.5 The Case for Situational Perspective Taking and Training

With only some non-systematic situational workplace survey measures and theory development, emerging research on adult perspective taking *in situ* has often necessitated relatively ad hoc measurement. This has included limited self-report items, anecdotal descriptions, or alternative methodologies. Empathic accuracy research looking at close relationships (see Ickes, 2003, for a review) has exclusively used a

videotape coding and rating methodology, as has work looking at the display of physicians interacting with particular patients (Silvester et al, 2007).

Work looking at classroom training and global business computer simulation roleplays has described anecdotally beneficial effects on perspective taking (Bos, Shami, & Naab, 2006), or using very simple adaptations of Davis (1983) trait scales (Gehlbach et al, 2008), which would seem conceptually less-than-ideal for gaining detailed, generalisable insights into possible workplace processes. Only some applied organisational research has looked at the situational manifestations of empathy and positive attributions (Axtell et al, 2007; Parker & Axtell, 2001; Williams et al, 2007), but this needs to be consolidated and explored more systematically so that generalisable conclusions can be drawn about cooperative work interactions.

The case for situational perspective taking is clear – it varies according to relationship parameters or the social environment, can be switched on by various laboratory stimuli, and can be trained/practised according to a variety of hands-on exercises (Galinsky et al, 2005; Gehlbach, 2004; Ickes, 2003; Johnson, 2000). One problem with laboratory studies is they often take the fact that perspective taking varies relatively for granted as a starting point, neglecting the process itself in favour of measuring demonstrable outcomes like helping behaviour, thus blurring process and outcome (Davis, 2005).

In this thesis I aim to explore the contingencies around perspective taking in teams; its variability over time and how it is affected by different targets. This approach makes a relatively novel contribution by formally examining situational models of team perspective taking, quantitatively analysing them, and gaining insights into how perspective taking might be improved via effective workplace practice and group management.

3.6 Perspective Taking, Teamworking, and Diversity

A specific application of perspective taking in the workplace that I explore further in this thesis is its potential for improving evaluations and cooperative behaviours towards diverse targets within and across groups or teams (Galinsky et al, 2005; Parker et al, 2008). Perspective taking reduces stereotyping, cuts across otherwise derogatory group membership boundaries, and includes attempts to gather diverse information against a backdrop of ultimate common ground (Galinsky, 2002; Karniol, 2003).

Team effectiveness is a very broad concept (Kozlowski & Ilgen, 2006). In terms of effective teamworking, I attempt to link perspective taking to contextual or helping behaviours, potency or morale, reflexivity, conflict management and self-ratings of effective task performance. This is because these variables appear well-suited to capture the main themes in the tradition of perspective taking research; themes of cooperation, finding value in diversity, and coordinated, tailored performances.

Definitions of team diversity are also diverse (Harrison & Klein, 2007). In this thesis, treatments of diversity include differences in the roles and needs of individual team members, team compositions along diversity dimensions (culture, expertise), and diverse targets in a wider system (other teams in other departments).

3.6.1 Perspective Taking and Effective Intergroup Relations

In this thesis I look at the dynamics of relationships concerning diverse attributes *within* teams and the benefits of relationships *between* teams performing diverse functions. As a concept, perspective taking has long-standing value in improving intergroup relations between any parties that vary according to group membership (Galinsky et al, 2005). Simply showing laboratory participants photos or auditory stimuli of outgroup members and instructing them to attend to the stimuli by perspective taking, imagining they are in their shoes and seeing through their eyes, leads to reduced stereotyping, favourable evaluations, a deviation from prejudicial expectancies, and treatment of diverse others as if they were in one's own ingroup (Batson et al, 1997; Galinsky, 2002).

Perspective taking is a critical step in explaining how imaginative contact between diverse parties can lead to reduced anxiety, a positive change in attitude towards them, and helping or cooperating with them (Aberson & Haag, 2007). Through guilt and a sense of conscience, perspective taking can collectively move entire groups to take supportive action on behalf of other groups (Mallett, Huntsinger, Sinclair, & Swim, 2008). Therefore in this thesis, I propose that perspective taking will help explain how functional the working interactions that emerge within teams are, both within the composition of the team itself, overlapping experiences and cultural differences, and in terms of its awareness of whole other teams in a more complex system.

3.6.2 Team Working Conditions in Conjunction with Team Perspective Taking

Teams can develop certain norms, cultures, and perceptions that represent and/or supportively interact with perspective taking alongside effective teamwork, and I investigate several of these states in this thesis.

Firstly, perspective taking itself is likely to be shared across teams to some extent; in the form of *team perspective taking*. Groups have been shown in organisational research to have shared attributions about what is happening within the organisation, and to modify these attributions in the face of novel situations and explanations (Silvester, Anderson, & Patterson, 1999). Indeed whole social structures can engage in 'compassion organising'; utilising their roles, cultures, networks, and routines to notice and respond to the plight of particular individuals (Dutton, Worline, Frost, & Lilius, 2006). Teams will also vary in the efforts they expend to comprehend and communicate clearly with other departments (Dougherty, 1992; Gittell, 2005).

In terms of team conditions supportive of perspective taking, I outline findings concerning perceptions of *task interdependence*; a sense of cooperative reliance on other team members for feedback, resources, and accurate information (Johnson et al, 2007; Wageman, 1995). Team members' perceptions that actions are interlinked between parties provides the motivation and capability to pursue perspective taking efforts and understanding further in taking actions that will benefit and match the needs of various parties. Interdependence provides a rationale for linking perspective taking to outcomes - if other parties are relying on the perspective taker for outcomes then there is a more pressing need to understand them and take appropriate cooperative action.

I also expect team members' self-esteem to support perspective taking's relationships. This is based on the fact that workers' social identities and images provide them with a source of important self-esteem which, if challenged, can be cognitively distracting and interfere with perspective taking by creating doubt, cynicism and competitiveness (Epley et al, 2002; Haslam, 2001). Higher self-esteem is more likely to be associated with a more flexible professional image and the ability to accommodate and act decisively on complex work perspectives, without being distracted or confused by self-related concerns (Roberts, 2005; Roccas & Brewer, 2002).

Finally, another supportive team condition is the group state of *inter-team perceived understanding,* or a team's shared perception that it thoroughly understands the thoughts and feelings of those in other teams. These external perceptions interact

with a team's corresponding understanding of its own internal perspectives by keeping it in touch with surrounding teams in a multi-team system (MTS) (Mathieu et al, 2001). This inter-team perspective taking is likely to help a team regulate effective teamwork in its internal environment, by focusing its boundaries, inspiring comparisons and learning from other teams, and meaningfully crafting a sense of how to perform its work as socially embedded in the wider organisation (Gittell, 2005; Grant, 2008; Yan & Louis, 1999).

In sum, a team that is collectively engaging in shared perspective taking, perceiving interdependent relations with self-confidence, and drawing meaningfully on external inter-team perspectives is most likely to make best use of its perspective taking efforts and capacities. Team perspective taking itself is like a climate of accommodation, where the strategic imperative shared by team members is to unpack, constructively engage with, and explore possible viewpoints in order to link them to confident states and perceived performances.

3.6.3 A Process View of Team Diversity

Team perspective taking can make a clear research contribution by explaining part of the intervening 'black box' processes between team diversity and team outcomes (Lawrence, 1997; Pelled, 1996). Over the last 30 years, reviews on workgroup diversity have revealed mixed findings concerning its relation with team effectiveness and performance (Jackson, Joshi, & Erhardt, 2003; Williams & O'Reilly, 1998). In part, this is because diversity can have clear positive and negative effects on team functioning, according to two major opposing theoretical perspectives (Van Knippenberg & Schippers, 2006). Firstly, *social categorisation* theory argues that subgroup differences cause splits according to shared social classifications, which lead to an 'us-them' rivalry, conflict, and outgroup biases, disrupting team process. In contrast, the *information/decision-making* approach argues that diversity yields valuable expertise and perspectives that positively relate to higher-quality decisions and superior innovative performances. There is some empirical evidence to support both views, positively and negatively linking diversity to team effectiveness outcomes (Van Knippeberg, De Dreu, & Homan, 2004).

This has led to some more recent research on mediators and moderators of workgroup diversity-outcome relationships. These mediators and moderators capture how, why and when diversity has its various effects. For example, information sharing

is one mediator, as is the elaboration of task representations and reflexivity about how to make useful changes in the team (Bunderson & Sutcliffe, 2002; Van Ginkel & Van Knippenberg, 2008). Moderators include personality characteristics in a team like openness to experience and need for cognition, as well as the culture of the work itself, whether people are in the same location, perceptions of interdependence and beliefs about diversity itself (Cannella, Park, & Lee, 2008; Ely & Thomas, 2001; Homan et al, 2008; Kearney, Gebert, Voelpel, 2009; Schippers, den Hartog, Koopman & Wienk, 2003; Van Dick, van Knippenberg, Hagele, Guillaume, & Brodbeck, 2008).

A key part of how diversity interfaces with team process involves how diversity is defined and measured. Diversity can vary in terms of how visible it is, how easy it is to appreciate or share, and how task-related it might be (Harrison, Price, & Bell, 1998). Research has generally found that categorical or interpersonal diversity can be more negative through effects like stereotyping and interpersonal conflict, whereas more flexible, overlapping, and task-related diversity can be more constructive (Jehn, Northcraft, & Neale, 1999; Pelled, Eisenhardt, & Xin, 1999). A recent meta-analysis found that task-related diversity was positive for team performance, while demographic category diversity showed no relation (Horwitz & Horwitz, 2007). Another meta-analysis found that no types of diversity had significant direct effects in either direction on team outcomes, again pointing to a black box of indirect processes and third variables (Webber & Donahue, 2001).

Perspective taking amongst team members leads to an imaginative appreciation of diversity. Organisations have often struggled with the problem of how to find 'value in diversity', encouraging creativity rather than dissent or confusion (Swann et al, 2004). Perspective taking has been argued to be a key concept for explaining how adults maintain a sense of lifelong learning and appreciation, acting like a democratic citizen in diverse, complex working environments (Gurin et al, 2002; Kegan, 1994).

In this thesis I generally aim to contribute to an understanding of the processes by which teams make constructive sense of diverse social information. Empirically, I place perspective taking as a key process capturing diversity effects, and also look at reflexivity and elaboration as relevant information processing correlates or outcomes of team perspective taking. One study explicitly addresses team diversity according to overlapping within-person expertise versus separate between-person nationalities, while the other studies look at general social differences in terms of managing diverse conflicts, roles, and team processing of internal and external perspectives.

3.6.4 A Prosocial View of Team Effectiveness

In this thesis I take quite an open, prosocial and external view of team effectiveness. In other words, the studies attempt to show that teams need to flexibly learn and adapt via their social cognition. Teams are social information processors, internally and externally, and this helps them to keep adapting to uncertainty, and to find the best ways to coordinate and back each other up (Hinsz, Tindale, & Vollrath, 1997). Teams need to understand their internal diversity, their role and task structures, their coordination overheads, and the fluid, open, ever-changing boundary links with other teams around them (Ancona & Caldwell, 1992; Smith & Gemmill, 1991). Perspective taking is important to such next-generation views of teamworking for positive, thorough and creative engagement with segmented social environments. The rationale for the studies of this thesis is based around this prosocial, adaptive view of teamworking, and in this section I briefly review some relevant research developments.

Firstly, perspective taking is likely to cut across mutually exclusive categories by focusing more on common ground or multiple overlaps, combating some of the problems of bias and rivalry stemming from the self-categorisation and social identity approach to workgroup splitting (Huber & Lewis, 2010). Roccas and Brewer (2002) propose the cognitive construct of *identity complexity* – the ability to acknowledge that identities only loosely overlap, and to reason along the counter-stereotypical lines that 'not all A's are B's, but they might be C's and D's as well as or instead of'. Analogous laboratory and field research with diverse groups show that as long as groups don't line up simultaneously along strong 'faultlines' of multiple diverse identities (e.g. all women in the group are also young, and all men are also old), but instead cut across categories to an extent, then this stimulates learning, reduced conflict, and improved performance (Crisp & Hewstone, 1999; Gibson & Vermeulen, 2003; Thatcher, Jehn, & Zanutto, 2003).

Secondly, team perspective taking captures an imagination-based laboratory concept in dynamic applied situational terms. Team perspective taking is likely to involve imagining contact with a range of other social subgroups in the workplace, inside and outside one's own team. It is also likely to involve self-disclosure as diverse parties make efforts to comprehend and elicit information from each other. These conditions are often finely manipulated in laboratories rather than tested in dynamic field conditions (e.g. Ensari & Miller, 2006; Turner, Crisp, & Lambert, 2007), whereas

team perspective taking provides a clear general frame for constructive prosocial information processing at workplace boundaries (Salancik & Pfeffer, 1978).

Finally, perspective taking helps us to understand ways of supporting prosocial and extra-role definitions of team and team member performances. It defines teams that go above and beyond the call of duty, transcending organisational divisions to face uncertainty with an open mind and help where possible, not just where appropriate. In this thesis I examine helping behaviours, morale and confidence, reflexivity, and task performances that are elaborate, exceeding required standards. In terms of team effectiveness, this increases our understanding of more open flows of information and influence in uncertain, dynamic social contexts, leading to adaptivity and the generation of social and relational capital (Adler & Kwon, 2002; Gelfand, Major, Raver, Nishii, & O'Brien, 2006).

Many prior teamworking constructs have focused more on cognition, human capital, and the more static nature of what team members know, rather than the interpersonal possibilities between them (Huber & Lewis, 2010; Weick & Roberts, 1993). In this thesis I investigate some of the perception-action linkages inside and outside teams, and between members that can help support prosocial behaviours spread in a wider system (Farsides, 2007; Penner, Dovidio, Piliavin, & Schroeder, 2005).

3.7 The Thesis Studies: Addressing Knowledge Gaps Using Perspective Taking

The thesis to follow contains four separate empirical studies, all using survey self-report methodologies, but each with their own distinct design, data, and contribution advantages for addressing many of the perspective taking and organisational knowledge gaps reviewed in this chapter. These are summarised briefly below.

Study 1a uses longitudinal data from two MBA project team cohorts to validate three distinct indicator measures of state team member perspective taking, and contrasts them with trait perspective taking, testing for distinct state factors that vary more over time than trait measures. Three self-report indicator measures are derived from an item pool: perspective taking effort, empathic concern, and positive attributions. The main contribution is to systematically validate the empathy and attributions measures used in some prior organisational research and in addition validate the new effort scale.

Study 1b continues to use longitudinal data from one of the MBA project team cohorts and causal analyses and I investigate how the three team member perspective

taking indicators are reciprocally related to prosocial, cooperative team member outcomes over time. In study 1b I also investigate how dispositional self-esteem and perceived task interdependence of team members moderate these relationships. The main contribution is to show that team member perspective taking drives prosocial, extra-role performance behaviours and connects workers to the social fabric of team interactions.

Study 2 uses the same MBA project team sample as study 1b, but analyses the three perspective taking indicators at the team level. I compute team-level diversity according to different cultural backgrounds between members and multiple functional experiences within members. I also explore how team perspective taking mediates between these aspects of diversity and team effectiveness outcomes of potency and reflexivity. The main contribution is to show how team perspective taking can act as a key process variable in explaining how teams find value in their diversity and reconciling traditionally mixed findings around diversity-outcome relations.

Study 3 is a cross-sectional study conducted on a large sample of military naval teams that work together aboard ships. In this study I explore how a self-report measure of perspective understanding operates when the target is intra-or within-team versus inter- or between-team. The relations between intra-team perspective taking and intra-team perceptions of performance, helping, and morale are assessed. I test inter-team perspective taking as a key moderator for potentially strengthening these associations, affecting how team perspective taking draws in benefits from a wider multi-team system. I also explore how team task elaboration can act as a mechanism linking intra-team perspective taking to perceived performance. The main contribution of this study is to understand how perspective taking operates in a complex organisation with multiple ongoing teams, and social conditions and mechanisms that support its coordination and contextual performance benefits.

3.8 Summary

In this chapter I have argued for the practical importance of perspective taking in the workplace, reviewing relevant organisational research and theory. Furthermore, I have shown how, partly via the studies of this thesis, perspective taking can be profitably researched in specific workplace situations of teamworking, team diversity, and prosocial, contextual team performances.

Chapter 4: Validating a Situational Measure of Perspective Taking for Diverse Team Members

4.1 Chapter Overview and Aims

In this chapter I will:

- Show that state perspective taking can be measured in the form of three different, equally valid indicators. These different indicators capture how perspective taking can occur or be demonstrated in different situations, encounters, and work contexts.

- Establish that these three state/situational indicators of perspective taking are different from more commonly-used trait measures in that they are more changeable over time, varying across states and situations.

- Empirically demonstrate the construct and content validity of these state/situational indicators, so that they can be related to important work attitudes and behaviours in subsequent studies on teamworking and diversity in the remainder of this thesis.

4.2 Study Context

This study drew on a secondary data source (2001-2006), using survey data collected at three time points in the executive year (EY or 'final year') 2002 of a postgraduate MBA programme. The dataset contained a wide array of team member constructs, personality constructs, and an exploratory pool of perspective taking items theoretically consistent with indicators of interest (i.e. perspective taking effort, positive attributions, and empathic concern). This pool of items was written originally by conducting a review of the perspective taking literature, developed via work by Sharon Parker (e.g. Parker et al, 2008). Two potential subscales – positive attributions and empathic concern - have been used in prior studies (Axtell et al, 2007; Parker & Axtell, 2001; Williams et al, 2007). My aim in this chapter is to provide further evidence of these subscales' validity, as well as to consider a further indicator that more directly assesses self-reported efforts to understand others' perspectives.

The sample was made up of part-time Masters of Business Administration (PT-MBA) study groups/teams. These were diverse groups that had a lot of discretion over

selection of members, workflow, and group solutions to tasks. This allowed for an exploration of perspective taking in a dynamic and diverse working environment where meaningful debates, discussions, and disputes could be expected to occur.

The sampled teams had to complete group work as a large part of their student assessment. The goal was to complete and pass group assignments, the outcome was group assignment marks (the same for each member), and the tasks typically involved debating ideas, generating solutions, and writing up, often passing work back and forth reciprocally.

This secondary data source was sampled for three main reasons. Firstly, as a convenience sample, the data maps on very well to the aims of this thesis. It contains a rich array of measures at multiple time points that are relevant to social diversity and teamworking issues. Logistically, such datasets can be difficult to collect, hard to come by, and thus examined less often. Secondly, the sample has generalizability to other modern working contexts. The groups were cross-functional, had a good deal of autonomy, and worked on complex projects and problems for time-limited periods. They also had strong incentives to achieve good marks, as these would impact on subsequent career moves and networking opportunities. Thirdly, the particular years sampled (2002/2003) had a consistently administered batch of items (state and trait) that allowed for validation of scales and testing of research questions on the topic of perspective taking that have not been previously addressed.

4.3 Study 1a Overview

In the current study, study 1a, I begin the empirical research of this thesis by systematically validating two previously used state/situational perspective taking indicators, and adding one additional scale. I achieve this aim by sorting through the exploratory pool of situational perspective taking items present in the PT-MBA sample and mapping the items back to the construct domain suggested by the literature.

From the range of relevant items and the research literature, a three-factor structure is proposed and tested in this study. The structure's superiority over alternative structures is tested, and I contrast the new measure with a widely-used trait counterpart that assumes cross-situational stability. The construct validity of the measure is confirmed in independent samples. I show the measurement structure to be invariant

and robust across two points in time. The scores on the state perspective taking measure are shown to vary more over time than the trait measure, as would be expected.

These analyses are important for developing standardised measures of state perspective taking that have only been used in several organisational studies. To study perspective taking effectively in settings involving teams with diverse members, a measure is required that has adequate levels of internal consistency/reliability, content validity, and criterion validity. These conditions together make up construct validity (Hinkin, 1998). In other words, the items of each scale need to generate relatively consistent responses, they need to adequately capture the meaning or content of interest, and they need to predict or relate to criteria of interest. The next chapter tackles the issue of criterion validity, whereas this study is focused on gathering evidence for the measure's internal consistency and content validity.

This study is important because it reinforces the idea that perspective taking can be captured by distinctive, meaningful indicators that vary across time and situation. Organisational researchers can use such measures to explain variability in important behaviours and processes engaged in by diverse team members.

This measurement work is also important for showing that perspective taking is malleable and amenable to pragmatic interventions. Therefore it need not only be seen as a generic ability that is relatively fixed and immutable. Stable measures of personality and individual difference trait perspective taking are important, but are not the whole story. Clear bodies of social psychological laboratory research show that perspective taking can be manipulated across a variety of situations and targets, irrespective of individuals' perspective taking trait variability (Galinsky et al, 2005).

The handful of workplace studies that do assess perspective taking situationally (e.g. Axtell et al, 2007; Parker & Axtell, 2001; Williams et al, 2007) show that it varies meaningfully according to the nature of the diverse co-workers, their information, departmental demands, mindsets and experiences. This converges with the laboratory research to add momentum to the idea that perspective taking can be switched on to varying degrees depending on the context. Recent reviews of perspective taking in applied educational and workplace settings have re-doubled efforts to argue that perspective taking can be trained, has different aspects/features, and varies according to characteristics of the wider context and perceiver-target relationships (Gehlbach, 2004; Parker et al, 2008).

4.4 Theory Development and Hypotheses

Examination of the pool of items in the PT-MBA data and a corresponding review of the literature suggested that a state measure of perspective taking with three scales would be most comprehensive. I also argue that these scales are relevant to how diverse team members work together, understand and coordinate their working process effectively.

The scales are termed 'indicators' rather than 'dimensions' to reflect the fact that perspective taking is a broad concept, can show itself in different ways, and is not easily subsumed under one higher-order dimension (Gerbing & Anderson, 1988). The three indicators vary according to two features. Firstly, I define them according to their possible or likely temporal positioning in the sequence or chain of a broader perspective taking endeavour. I refer to one more instantaneous dimension as a proximal 'process', and later, more lasting aspects that are closer to behaviour but take longer to emerge as distal 'results'. This is consistent with stage-based theorising about perspective taking, which argues that it is made up of sequential chains of constituent elements (Davis, 1996; 2005).

Secondly, I define the indicators according to their cognitive and/or affective emphasis. Much research on perspective taking has argued and shown that it can operate on more cognitive and/or more affective content relatively independently, and that this distinction has discriminant validity (Duan, 2000; Oswald, 2002; Parker & Axtell, 2001; Shamay-Tsoory & Aharon-Peretz, 2007). Perspective taking can involve a relatively more intellectual, objective analysis of a target's predicament, and/or a relatively more affective, emotional participation in recognising and reacting to what a target may be feeling in response to their predicament. Note that the cognitive-affective distinction need not be mutually exclusive; I argue below that one subscale, 'perspective taking effort', could potentially involve a mixture of both cognitive and affective elements (Kerem et al, 2001).

Parker et al (2008) have also made a distinction between *active* perspective taking or the effort to try and take perspective, and *effective* perspective taking or how comprehensive and accurate a perspective taking attempt is. The three indicators here generally focus much more on *active* perspective taking; that is, the motivated efforts and engagements to interpret the perspectives of others in a positive, constructive and accommodating manner. The 'accuracy' or *effectiveness* of the results of perspective

taking acts is in any case very difficult to operationally define, verify, and pin down in a concrete fashion (Ickes, 2003; Katz, 1963). For example, if someone makes a blaming attribution towards someone's personality, or argues that their contrasting approach to a work task is deficient then it is very hard to say how 'accurate' this assessment is, in perspective taking terms or otherwise. Instead, the indicators here emphasise that it is the active efforts to try and positively accommodate people's viewpoints and reactions that constitute perspective taking; tendencies to engage in target-favouring plausible reasoning that will be effective insofar as it sustains continuing smooth coordinated interactions (Galinsky et al, 2005; Mead, 1934; Swann et al, 2004).

Measuring accuracy would typically require dyadic, independent verification from the targets; verification of whether the perspective taker had accurately captured their viewpoint as they themselves saw it. This in turn requires elaborate dyadic methodologies, which nevertheless show that 'accuracy' thus defined is relatively low and poor (Ickes, 2003). The idea of accuracy or effectiveness is a logical and rational concept, but on the whole perspective taking is imaginative and pragmatic, concerned with trying to provide supportive possibilities, representations, and explanations, rather than definite, comprehensive 'reality' statements (Boland & Tenkasi, 1995; Fiske, 1992; Katz, 1963). In the final thesis study I explore accuracy, but in terms of self-perceptions of 'effectiveness' or how thorough perspective taking is for different targets.

Figure 4.1 below summarises these general theoretical distinctions that separate the three proposed indicators of situational perspective taking.

I now turn to outlining the exact character of each of these three state perspective taking indicators in turn, in more specific depth.

Figure 4.1 Schematic Model Summarising the Three Situational Perspective Taking Scales in a Given Perspective Taking Act
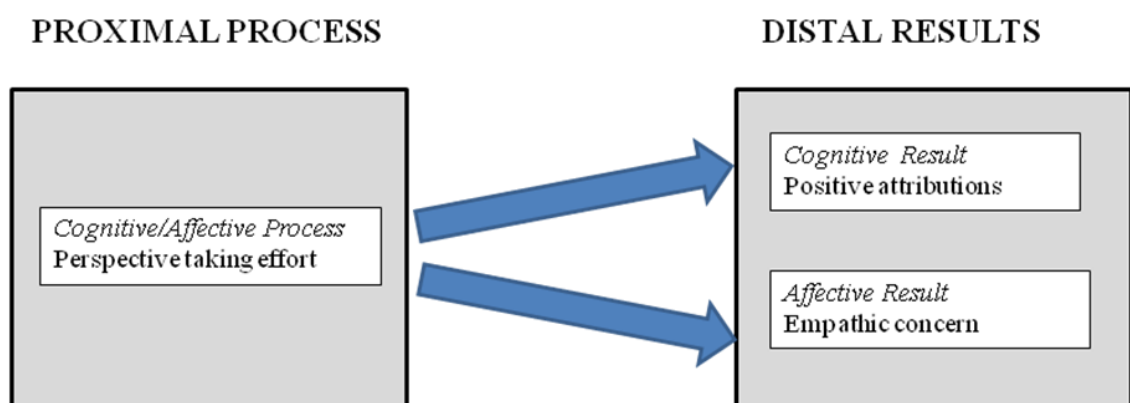
4.4.1 Perspective Taking Effort (cognitive/affective process) as an Indicator of Team Member Perspective Taking

The perspective taking effort indicator assesses the extent team members exert effort to understand the reasoning and feelings underlying conflicting points of view within the team that differ from their own. This act of perspective taking is often marred by egocentric assumption; for example, the 'fixed pie' bias, or tendency for parties to exaggeratedly assume they are crudely approaching a win-lose impasse where they are totally at odds with each other (Gelfand et al, 2006). The powerful initial stimulus for perspective taking processing lies in the question: what if another person is invoking a perspective that is in fact fairly likely to be conflicting, opposing or at odds with our own?

This constitutes a major, relatively instantaneous, process-oriented case of perspective taking worthy of measurement, where perspectives do contrast to a fair degree, and stray into significant territories with dramatic potential for everything from innovations to conflicts. If we attempt to imagine another person's viewpoint, it seems likely that an immediate, process aspect of this act is to try to adjust for any contrast. There is a need to recalibrate to capture perspectives that differ from our own in the ways others approach their work. This would appear to be more about the cognitive information being processed at the earliest stage of perspective taking, where the perceiver's aim is to simply ascertain whether another diverse team member has a different perspective at all, and the extent and nature of that possible difference. This indicator was measured to capture the conscious, deliberate efforts to see another's cognitive and affective point of view even in the difficult situation where the other party has a different work approach and is holding qualitatively different values.

The 'audience design' hypothesis of perspective taking states that when talking to a different person about something, we try to account for their contrasting informational standpoint. This involves accounting for what's relevant to them, what they already know (e.g. novices versus experts), and what's visible or already been referred to (physical and linguistic co-presence) (Krauss & Fussell, 1991). Organisational field research supports the idea that for team members working in different geographical locations, differing situations need to be communicated to ensure a cooperative context (Hinds & Mortensen, 2005).

This indicator of team member perspective taking would seem to be particularly proximal and at the heart of the process itself, complementing and informing the more

manifest 'results' aspects of positive attributions and empathic concern. This indicator has been looked at by asking people to directly recall salient disputable episodes and describe them from both sides (Leith & Baumeister, 1998). Although this is looking at actual perspectives in detail, in contrast to the self-reported measures of perceived efforts to understand developed here, the general distinctive value of this indicator appears worthwhile from such past research.

In Figure 4.1 the perspective taking effort scale is the only situational perspective taking indicator characterised by a mixture of cognitive and affective focus. This is logical given that any particular contrast or conflicting perspective is likely to have some emotions or affective states coexisting alongside the substantive intellectual nature of the contrast (Jehn, 1995; Sessa, 1996). Team members may well feel anger, guilt, confusion, excitement, pride or a mixture thereof, whilst at the same time trying to analyse the conflicting perspectives in a cognitive, informational manner (Simons, Pelled, & Smith, 1999).

This is probably where perspective taking has most face validity, where there are literally different 'sides' being staked out. However, as with the fixed pie bias, once a situation of difference arises, partisanship is typically over-exaggerated. Much laboratory research shows we are somewhat shocked by disagreement, due to assumptions of 'naïve realism' and 'false consensus', which limit our perspective taking by embedding a strong empiricist belief that 'everybody sees the world the way I do, how could they not?' (Ross & Ward, 1996). Generating perspective taking is particularly important here in highlighting room for compromise, uncertainty, and joint gain, because otherwise people are ironically at risk for actually overemphasising or downplaying common ground. In negotiations, focusing on opposite information like the other parties' alternatives and maximum/minimum values can result in fairer, mutually beneficial solutions (Galinsky & Mussweiler, 2001; Neale & Bazerman, 1983).

A strongly effortful perspective taker in this area will ask reflective, self-aware questions such as 'why did I react the way I did?' and 'how do people feel about this?' (Sonenshein, 2007) This will typically happen in situ, as it is unrealistic to rationally ponder various viewpoints before they are underway, being expressed and enacted. As revealed by the biases described above, we often take a stance first, and then need to re-appraise later (Epley, 2008; Sonenshein, 2007).

Social psychological laboratory work shows that introducing a peer with a contrasting opinion on a moral issue creates dissonance or disequilibrium, which motivates re-balancing via a more even-handed consideration of the issue from the participant (Tjosvold & Johnson, 1977). Interestingly, participants in a no-controversy condition were more fallaciously over-confident in their accuracy at capturing the issue thoroughly, demonstrating an 'illusion of understanding' (Tjosvold & Johnson, 1977). This highlights the initial importance of perspective taking for breaking a status quo where diverse opinions are at risk for being mistakenly excluded.

Laboratory work has also been conducted on how we understand and predict the contrasting decision-making preferences of other people. This has involved studies that provide some basic information on decision parameters, and then directly measure how we rank and adjust their weighting for different targets. For example, in sales and healthcare, we combine information differently for ourselves and others when we realise other people use parameters differently in their purchase and medication decisions (Ligneau-Hervé & Mullet, 2005; Wills & Moore, 1996). Often we fail in this sensitivity and simply assume others would prioritise the same as we ourselves would; it is only through perspective taking instruction that we can modify cue usage to respect the needs and values of others, overcoming this egocentric bias (Wills & Moore, 1996).

This form of perspective taking effort also maps across to understanding the contrasting expertise, or strengths and weaknesses of team members. In support of the value of perspective taking in this area, laboratory studies forewarning groups to consider possible expert roles go on to solve problems and integrate information more successfully (Stasser et al, 2000; Woolley et al, 2008). Applied workplace research also shows that team members that quickly acknowledge and verify contrasts in the characters of their team members go on to find more value in their diversity and perform better (Polzer, Milton, & Swann, 2002).

In sum, perspective taking can help to embrace diverse views via efforts to openly analyse and represent them in positive ways, which leads to clear working benefits, particularly between diverse team members (e.g. innovative solutions, voicing minority views, challenging existing assumptions) (Johnson, 2000; Tjosvold, Hui, & Yu, 2003). This 'dialectical' thinking about contrasting views is a distinctive mode of adult cognition, which involves transforming contradiction and reconciling it toward greater inclusiveness (Basseches, 2005). I argue that these positive, distinctive concepts justify development of a 'perspective taking effort' indicator measure of perspective

taking that captures the heart of the situational 'process' of engagement with other team members. To use a navigation analogy, we drop the anchor or set up the camp of our own perspective, and then try to search the surrounding landscape for foreign viewpoints at different locations, sometimes obstructing our own routes and/or of course showing us new ones.

In the EY MBA dataset, there was a pool of perspective taking effort items. These item statements describe diverse team members trying hard to understand the feelings and reasoning behind differences, even when another team member's viewpoint is very different from their own. Example items include the extent of agreement with statements such as 'if conflicting opinions are put forward, I try to understand the reasoning and thought processes behind them' and 'when my team members hold views that contrast with my own, I try to understand why they think as they do'.

4.4.2 Empathic Concern (affective result) as an Indicator of Team Member Perspective Taking

The empathic concern indicator is a self-report measure capturing feelings of concern and compassion towards the problems and pressures of other team members. As in Figure 4.1, it can be argued to be a 'manifestation' or 'affective result' of the prior, often more intellectual component of the effortful perspective taking act (Parker & Axtell, 2001). It can even be separated out as 'what we feel', uncorrelated with 'how much we attended to another' (Oswald, 2002). There are thus good reasons that can be used to justify its inclusion as part of a comprehensive perspective taking measure. It is often explicitly referred to as 'affective perspective taking' in parallel with more cognitive perspective taking forms, such as other-serving attributions (Duan, 2000).

It starts out as one person relates to the emotions of another, and shares in those emotions. This initial attending to and sharing of feeling is much closer to a tight definition of other-oriented perspective taking than are many subsequent 'empathy-related responses' (Hoffman, 2000). For example, empathic concern can be distinguished from sympathy and personal distress, which typically involve more intense feelings of pity or fear, diverging from sharing the target's state and thus being more self-oriented (Eisenberg, 2000). Empathy can also be seen as less passive than states like sympathy, signalling an active 'knowing' or 'feeling into' the emotions of others (Davis, 1996). Although sympathy and empathy are historically fairly closely intertwined, empathy is a newer term. Sympathy tends to carry slightly more 'hard-

wired' connotations of instant biological perception (e.g. alarm calls in animals signifying fear and distress), whereas arguments have developed around empathy that suggest more deliberative cognitive processing – empathy tends to be more about understanding feelings than simply sharing them (Davis, 1996; Katz, 1963). This of course ties it very closely into any perspective taking model, albeit with a specifically emotional focus (de Waal, 2008).

Thus empathic concern here is about attending to others' emotions and sharing in them, through an appreciation of the situation and identification with the target person (Parker & Axtell, 2001; Batson et al, 2007). This is supported by the idea that when the target presents a coherent cognitive-emotional portrait (e.g. happy-ambitious; sad-confused) we are able to exhibit higher levels of empathic concern toward them (Oswald, 2002). Happiness and sadness are the most basic, common emotions that make up shared feeling between people; sadness hinting at moral concerns and happiness towards a rewarding positive contagion (Duan, 2000). One subtler issue still contested is whether or not we 'merge' with the other person, or just feel congruent with them to a degree. Evidence suggests that we attend to others, but do not need to experience full 'self-other merging' to feel empathic concern or to help them (Batson et al, 1997).

Empathic concern has been explicitly proposed as a situational factor than can be trained to improve intergroup relations between diverse learners in educational programs (Stephan & Finlay, 1999). Research on the phenomenological experiences of empathy between people shows it to be closely intertwined with cognitive perspective taking elements as inferences are made, although the emotional involvement itself is particularly meaningful to other parties (Kerem et al, 2001). Thus more often than not, empathic concern is conceived of as a type of perspective taking, and integral to an overall process of understanding diverse others. Such ideas are consistent with the psychology of reflection, which argues that as we bring perspectives into our consciousness, cognition and affect can mutually trigger one another in close ways (Demetriou & Wilson, 2008).

Empathic concern has also been used in recent studies of workplace behaviour, typically identifying its role in improved emotion work and customer service interactions (Axtell et al, 2007; Rupp et al, 2008; Spencer & Rupp, 2009).

In sum, a measure of empathic concern is justified for inclusion in any perspective taking measure, given that it defines how valued emotions experienced by diverse team members and other parties are positively responded to in the workplace.

Sharing these emotions can help people to appraise situations more coherently, motivating positive, prosocial, moral and adaptive behaviours. It complements and relates to more intellectual or cognitive forms of perspective taking within an overall act.

In the EY MBA dataset, there was a pool of empathic concern items. These item statements describe diverse team members' general sense of compassion and concern towards others experiencing problems, pressures, and/or personal difficulties. Example items include the extent of agreement with statements such as 'I feel compassion towards my team members when they are experiencing problems' and 'I feel concerned for my team members if they are under pressure'.

4.4.3 Positive Attributions (cognitive result) as an Indicator of Team Member Perspective Taking

The positive attributions indicator is a self-report measure capturing team members' positive perceptions that other team members are not to be blamed for events/behaviours, but instead face complex situational causal factors. Attributions have a relatively long history in the tradition of human relations. As soon as we encounter other different people, we try to make sense of the cause and effect forces affecting their mind states and behaviours, as well as our own (Heider, 1958). Where perspective taking comes in is in affecting exactly *how* we make *other-oriented* attributions, and how they can be made in positive ways that serve our relations with others.

Attributional reasoning in a workplace is typically motivated by unexpected events, goal performances, interdependence, and anticipated interactions (Barry & Crant, 2000). It can be seen to serve a function of answering 'why' questions such as 'why did they do that?' or 'why did that happen?' Working in a small group on shared projects with other diverse team members certainly seems to involve these conditions. As soon as we have access to information about others, simply instructing a person to take perspective may lead them to use it to portray those others as having rational beliefs and desires (Malle, 2006).

Positive, other-serving attributions can be seen as a 'manifestation' or 'cognitive result' that occurs subsequent to the core imaginative act (Davis, 2005; Parker & Axtell, 2001). However, it is very difficult to assess 'actual' perspective taking via a survey, so this more indirect method has advantages of being accessible, comprehensible, and observable (Davis, 1996). Laboratory studies and organisational fieldwork have used

target-serving attributions to capture perspective taking (e.g. Duan, 2000; Parker & Axtell, 2001; Williams et al, 2007). Furthermore, attributions are likely to have a very ongoing influence in specific perspective taking acts, as they are instrumental in guiding relationship expectations and driving the overall process forward towards workplace behaviours (Barry & Crant, 2000; Martinko, Douglas, & Harvey, 2006). Attributions measures have high face validity for precisely this reason; they are the immediate conclusions or explanations arising from a perspective taking act. Thus I define them as a 'cognitive result' in Figure 4.1, but note that they are very much included as part of the overall perspective taking process.

If perspective taking is manifested by positive, other-oriented attributions, what does this mean exactly? More specifically, what might it mean in the context of diverse working team members? This question can be partly answered in the negative, in that we are typically biased towards a positive, accommodating understanding of our own causal force-field, and towards taking a relatively rigid, narrower perspective on that of others (Ross & Nisbett, 1991). In its most well-known form this is called the 'fundamental attribution error' – we tend to credit our internal dispositions for positive occurrences, whilst blaming our external situations for negative occurrences. This pattern is reversed when we are observing others; we tend to emphasise stable dispositions and blame them for their shortcomings or mishaps, and temporary situational good fortunes for their successes (Ross & Nisbett, 1991). This can lead to a host of other complex biases depending on the exact situation, but the net effect is that we are vulnerable to over-emphasising complex explanations that serve ourselves and cruder ones that over-simplify the stories of others (Martinko et al, 2006).

This is where perspective taking is decisively effective – as a social process it can attenuate and even reverse these attributional biases. Instructions to focus on others' situations more can lead to a fairer appreciation of them equally sharing a pressurised work deadline (Moore, 2005). Watching a videotape back from an interaction partner's perspective reverses the fundamental attribution error (Regan & Totten, 1975; Storms, 1973). These simple instructional sets re-balance and re-focus our attention towards the full range of cause-and-effect surrounding others in our dealings with them. This can lead to positive spirals of perceived familiarity, liking, tolerance, and belief in a 'just world' (Davis, 1996). Such social processes are vital for ensuring effective, harmonious interactions between diverse team members.

In sum, a measure of other-serving 'positive attributions' is a valid indicator for a perspective taking measure, because there is strong evidence that perspective taking shifts common attributional biases. This indicator defines how we most constructively interpret and make sense of surprising, unexpected social events like encountering diversity in the workplace.

In the EY MBA dataset, there was a pool of other-serving, positive attributions items. These item statements describe diverse team members' positive attributions that others do not deserve blame, are working as hard as they can, and that situational pressures outside of their control can usually explain their mishaps. Example items include the extent of agreement with statements such as 'my team members are doing the best they can, given their circumstances' and 'when team members don't contribute much, it's usually because of factors outside their control'.

4.4.4 Measurement Model Hypotheses

From the literature just reviewed, I have argued for the value of three indicators of team member perspective taking, with pools of matching items present in the EY MBA dataset. The indicators I have defined cover the range of different ways a perspective taker can see other viewpoints in a team – in terms of the initial process-based efforts to register diverse contrasting views on issues, through to resulting emotional reactions and causal interpretations. I now investigate some general hypotheses that the items in the data will map analytically back to the construct domain I have defined for situational team member perspective taking. Thus the general hypotheses the data are tested against are as follows:

- *Hypothesis 1: The pool of items in the current dataset load approximately onto the three separate factors identified a priori from related research and theory.*

- *Hypothesis 2: The three-factor perspective taking measurement model fits the data better than alternative factor structures, is invariant across two time points, and is independently confirmed using data from a separate sample.*

4.4.5 Trait versus State Hypothesis

The three state indicators of team member perspective taking clearly point to it being a social process that operates in a great variety of situations, from moral disputes to cooperating and sharing knowledge with diverse co-workers. Despite perspective taking probably having a hereditary genetic component, as well as a stable personality base (e.g. Davis, 1996), it seems naïve and unduly pessimistic to assume we can't instigate and measure changes in perspective taking according to situational parameters. This is not necessarily a contested issue, although much of the research discussed, even in workplace settings, continues to use a very generic, over-simplified static individual difference measure (e.g. Gurin et al, 2002; Rupp et al, 2008; Sessa, 1996). By far the most widely used measures are the subscales of Davis' (1983) IRI – Interpersonal Reactivity Index, a measure that looks at dispositional tendencies in four distinct but related areas of interpersonal sensitivity (perspective taking; empathic concern; personal distress; fantasy) (Davis, 1996). In the current validation study, the IRI perspective taking and empathic concern subscales are used as trait measures with which to compare the three situational scales.

Thus I argue it is important and timely to consolidate and formalise situational perspective taking scales used in some prior organisational work to offer a balanced complement to traditional trait scales. A self-report measure that has high face, content, and construct validity can then be used more flexibly in a wide range of applied settings. Assuming that state perspective taking flows from and/or runs in parallel to its trait counterpart, we can emphasise variation in an important social process. State perspective taking is important because it explores more practical alternatives than just targeting, selecting and labelling individuals high and low in general perspective taking. It draws attention to the context of diverse team workers and information in the surrounding environment. This further speaks to how this fundamental social process can be supported for many workers, irrespective of their trait capacities.

This exploration of situational team working conditions is continued throughout the thesis. An important initial descriptive test for the current study and its measure validation is whether state indicator measures do in fact vary dynamically across potential tasks, contexts, and targets. In this study, this assumption was tested against the data very simply by comparing how trait and state measures correlated with themselves over time. The expectation was that situational/state perspective taking

would correlate less strongly with itself over time than its widely-used trait counterparts, which should show more stable reliable levels across time points. This lower state correlation could potentially signify meaningful variability across time points, while the samples and individuals involved are held constant. Structural models were also tested to conclusively show that restraining the trait-state correlations to be equal would significantly worsen model fit, suggesting significant differences in magnitude.

This is captured by the third and final general hypothesis of this study:

- *Hypothesis 3: Situational team member perspective taking indicators correlate less strongly with themselves across two time points than scales from a trait perspective taking measure*

4.5 Validation: Method and Analyses

4.5.1 Sample and Data Collection

The final 2002 sample consisted of 227 individuals (70 female, 157 male) working in 47 groups, ranging in age from 26-52 years. The groups were working together over the course of a 38-week academic year, and ranged in size from 3-7 members. The individual members on the course were allocated into their groups according to an approximate criterion of diverse composition (i.e. some differing functional background, gender, ethnicities, and ages).

Over the course of the year, various measures were collected at each of three time points. These time points had been theoretically selected to meaningfully align with the task performance episodes of the groups (i.e. the ends and beginnings of various projects). Time 1 (T1) corresponded to the first week of the academic year, after some very initial interaction, but no significant projects or feedback. Time 2 (T2) corresponded to weeks 18-20, after two projects had been completed and feedback received for both. Time 3 (T3) corresponded to weeks 28-30, where 4 of the 6 group assignments had been completed, and feedback/grades received on 3 of the assignments. Given the available distribution of items across time points, control measures and dispositional measures were selected as measured at the first time point, perspective taking and other diversity/teamwork-relevant variables at the second and third (unless otherwise stipulated). In study 1a, I will only be referring to the situational and trait

perspective taking measures. Information about the sample, measures, analyses, and hypotheses is summarised below in Figure 4.2.

A 2003 sample was also used, to cross-validate and confirm the situational perspective taking measure factor structure. This sample was made up similarly to that of 2002 – with 322 individuals (88 female, 234 male) working in 63 groups, ranging in age from 26-50 years. Team size ranged from 4 to 7 members. Logistically, one of the perspective taking effort items was missing from this year's cohort, but the CFA was carried out on the three subscales identically except for this one item. As with the 2002 data, the perspective taking factor structure was tested at the same two time points: T2 and T3.

4.5.2 Study Measures

The perspective taking items had been written for this dataset, and there was an initial pool of 15 items (four perspective taking effort; seven empathic concern; four positive attributions items). The positive attributions and empathic concern items closely mirrored those used in prior organisational research (Axtell et al, 2007; Parker & Axtell, 2001; Williams et al, 2007).

Figure 4.2 Study 1a Design and Hypotheses Summary

Sample Time Points and Key Events Across MBA Executive Year

Week 1: some initial interaction between team members, but no projects begun, no feedback received

Week 18-20: completion of two work projects between team members, feedback received on both

Week 28-30: completion of four out of six work projects between team members, feedback received on three

T1   T2   T3

2002/3 sample:
trait PT
EFA (2002 – hypothesis 1)
CFA (2003- hypothesis 1/2)

2002/3 sample:
state PT indicators
EFA (2002 – hypothesis 1)
CFA (2003 – hypotheses 1/2)
Measurement invariance testing (2002/2003 – hypothesis 2)

2003 sample:
trait PT
trait empathic concern
state PT indicators

Hypothesis 3: trait/state stability correlations across time

2003 sample:
trait PT
trait empathic concern
state PT indicators

Study 1a Research Events/Analyses for 2002 and 2003 Samples

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The trait perspective taking items and trait empathic concern items were identical to those established and widely used as part of Davis' (1983) IRI index. Trait perspective taking items assess the 'reported tendency to spontaneously adopt the psychological point of view of others in everyday life', whereas trait empathic concern items assess the 'tendency to experience empathy and compassion for unfortunate others' (Davis, 1996, p57). In full, these two trait scales are made up of seven items apiece; but in the current dataset, to preserve space alongside other measures, only the three items with the highest factor loadings had been retained from earlier pilot work using the full item sets.

The full initial item pool for the situational perspective taking scales, and the sets of trait perspective taking items used are shown below in Table 4.1. All scales used five point Likert response formats with the anchors 'Strongly Agree' and 'Strongly Disagree'.

Table 4.1 Full Initial Item Pools for Situational Team Member Perspective Taking and Trait Perspective Taking Measures

Perspective Taking Dimension	Item
Perspective Taking Effort	When disputes arise in the team, I try to understand the feelings of those involved
	I try hard to see things from other team members' perspectives, even when my views are different from theirs
	If conflicting opinions are put forward, I try to understand the reasoning and thought processes behind them
	When my team members hold views that contrast with my own, I try to understand why they think as they do
Empathic Concern	I feel concerned for my team members if they are under pressure
	I feel compassion towards my team members when they are experiencing problems
	It pleases me to see other members of my team doing well
	I understand the problems my team members experience
	I can relate to my team members when things go wrong

Empathic Concern (Continued)	I appreciate why my team members experience strong emotions on occasions
	It distresses me when my team members have personal difficulties
Positive Attributions	My team members are doing the best they can, given their circumstances
	If members of my team make mistakes, its usually not their fault
	Members of my team work just as hard as I do
	If my team members fall behind, it is usually due to their tough circumstances
	When team members don't contribute much, it's usually because of factors outside their control
Trait Perspective Taking (IRI; Davis, 1983)	Before criticising somebody, I try to imagine how I would feel if I were in their place
	I sometimes try to understand my friends better by imagining how things look from their perspective
	When I'm upset at someone, I usually try to "put myself in his shoes" for a while
Trait Empathic Concern (IRI; Davis, 1983)	I often have tender, concerned feelings for people less fortunate than me
	I would describe myself as a pretty soft-hearted person
	I am often quite touched by things that I see happen

4.5.3 Exploratory Factor Analysis (EFA) of Team Member Perspective Taking on 2002 Sample

The major focus of the factor analyses was on parsimoniously testing the three-factor structure of situational perspective taking outlined in the hypotheses. The trait perspective taking scales are also included to differentiate the trait from the state constructs, and as a precursor for the trait-state analysis comparing stability correlations over time (hypothesis 3). In addition, it should be noted that the trait perspective taking items are analysed and related more fully to the state perspective taking measures in the next study chapter (Chapter 5; study 1b), where a perspective taking nomological network is more comprehensively explored.

Situational perspective taking was firstly subjected to an exploratory factor analysis using the 2002 data, once at T2 and once at T3. Each time, trait perspective

taking and trait empathic concern items from T1 were also included. The factors were extracted using principal axis factoring (PAF), and an oblique rotation allowing the factors to correlate (Hinkin, 1998). Scree plots, Eigenvalues greater than or close to one, and pattern matrices were consulted to make decisions on final item inclusion. Items were generally considered to satisfactorily represent their scale if: they had factor loadings greater than 0.4 on the intended constructs and no cross-loadings greater than 0.4 on other distinct constructs. A factor solution that explained around 60% of the total item variance was also considered acceptable (Hinkin, 1998).

For the factor analyses carried out with the situational perspective taking items at both T2 and T3, the specified five factor solutions yielded the expected results, with the majority of items loading strongly onto their respective factors. Inspection of the pattern matrix suggested dropping a few items with poor loadings (< 0.4) from each of the scales, typically the same items that didn't load strongly at either of the time points. The final solutions at T2 and T3 both explained 77% of the total item variance.

At both time points, although item loadings were satisfactory, the Eigenvalues for the fifth factor were below one (0.92 at T2 and 0.78 at T3). These fifth factors explained a cumulative 5.4% and 4.7% of the total item variance at T2 and T3 respectively. The further gains in variance explained beyond the fourth factors were negligible at both time points ($< 4\%$).

In sum, the EFA was largely successful at discriminating the three situational team member perspective taking subscales from each other and commonly-used trait scales, both at T2 and T3 in the 2002 dataset. Thus, these EFA results support hypothesis 1.

The final scales all showed satisfactory internal consistency reliabilities and were comprised as follows: four items on perspective taking effort, for example, 'when team members hold views that contrast with my own, I try to understand why they think as they do' (T2$\alpha = 0.88$, T3$\alpha = 0.90$); three items on empathic concern, for example, 'I feel concerned for team members if they are under pressure' (T2$\alpha = 0.88$, T3$\alpha = 0.81$); and four items on positive attributions, for example, 'if team members fall behind, it is usually due to their tough circumstances' (T2$\alpha = 0.87$, T3$\alpha = 0.88$). The final items and their factor loadings in a rotated pattern matrix from 2002 T2 are shown in Table 4.2.

Following this initial EFA, a CFA from an independent sample was conducted with the final item set, using a distinct sample to provide further evidence of a three factor structure (hypotheses 1 and 2).

Table 4.2 Exploratory Factor Analysis Rotated Pattern Matrix for Team Member Perspective Taking Scales and Trait Perspective Taking Scales (2002 Sample; trait items from T1, situational/state items from T2)

	Factor				
	Effort	Empathic Concern	Positive Attributions	Trait PT	Trait EC
I try hard to see things from other team members' perspectives, even when my views are different from theirs	0.63				
When disputes arise among team members, I try to understand the feelings of those involved.	0.60				
If conflicting opinions are put forward, I try to understand the reasoning and thought processes behind them.	0.92				
When my team members hold views that contrast with my own, I try to understand why they think as they do.	0.92				
I feel concerned for my team members if they are under pressure		0.87			
I feel compassion towards my team members when they are experiencing problems		0.93			
It distresses me when my team members have personal difficulties		0.53			
My team members are doing the best they can, given their circumstances			0.48		
If members of my team make mistakes, its usually not their fault			0.72		
If my team members fall behind, it is usually due to their tough circumstances			0.83		

	Factor				
	Effort	**Empathic Concern**	**Positive Attributions**	**Trait PT**	**Trait EC**
When team members don't contribute much, its usually because of factors outside their control			0.99		
Before criticising somebody, I try to imagine how I would feel if I were in their place				0.84	
I sometimes try to understand my friends better by imagining how things look from their perspective				0.85	
When I'm upset at someone, I usually try to "put myself in his shoes" for a while				0.83	
I often have tender, concerned feelings for people less fortunate than me					0.71
I would describe myself as a pretty soft-hearted person					0.83
I am often quite touched by things that I see happen					0.81

N = 220; factor loadings < 0.4 not shown

4.5.4 Confirmatory Factor Analysis (CFA) of Team Member Perspective Taking on 2003 Sample

A confirmatory factor analysis (CFA) of the situational and trait perspective taking scales was carried out on the 2003 sample in MPlus, using maximum likelihood estimation and the item variance-covariance matrix. Two incremental fit indices for models are reported; the standardised root mean square residual (SRMR) and the comparative fit index (CFI). Recommended cut-off values indicating good model fit are less than 0.08 for the SRMR and greater than 0.95 for the CFI (Hu & Bentler, 1999). The CFI is recommended as most appropriate when working with relatively small samples (<250 cases), and the SRMR is recommended when using maximum likelihood as an estimation method (Hu & Bentler, 1998). The proposed solution was for there to be five distinctive scales – the three team member state perspective taking ones, and the two trait scales.

Several more parsimonious, theoretically-based models with one, two, and four factors were tested as well. A one factor model was tested to allow for the possibility of a composite containing all subscales fitting the data. A two factor model was tested by pairing up the subscales according to a basic trait-state distinction. A four factor model was tested that combined positive attributions and empathic concern as the distal 'results' manifestations of perspective taking, with perspective taking effort as a separate proximal 'process' indicator. Finally, a second four factor model separated positive attributions as a more cognitive/intellectual aspect of perspective taking, with empathic concern and perspective taking effort combined as more affective/emotional indicators.

The results from all these measurement models at both time points are shown below in Table 4.3. Specifically, at T2, the five factor model fitted the data better than any of the alternatives (χ^2 = 185.31, SRMR = 0.06, CFI = 0.95). The closest fitting model was a four factor alternative combining perspective taking effort and empathic concern into a fourth factor, although this model didn't indicate good fit and was a significantly worse fit to the data ($\Delta\chi^2$ = 129.27, df = 4, p<0.001). At T3, the results were virtually identical to T2, with the five factor model again providing the best fit to the data (χ^2 = 152.37, SRMR = 0.05, CFI = 0.97). At both T2 and T3, the individual t-tests for all parameter values (item loadings) were all highly significant (p<0.001) with items loading strongly onto their respective factors.

In sum, these CFA results provide strong support for hypotheses 1 and 2. A three factor model is most appropriate for state perspective taking, and separates meaningfully from trait scales. This evidence confirms in an independent sample that the three indicators of situational perspective taking are distinct from each other and commonly-used trait variants. The hypothesised model was a good fit to the data, and furthermore, none of the broad array of plausible alternative models even reached acceptable levels of fit. It is also noteworthy here that at both T2 and T3 the one factor models provided very poor fits with the data, thus indicating that common method variance is extremely unlikely to explain relationships between the perspective taking variables (Podsakoff & Organ, 1986).

Table 4.3 CFA on Team Member Perspective Taking Measurement Models With 2003 Sample (Trait Scales are From T1, State Team Member Scales are From T2 and T3)

T2	Chi-square, df	CFI	SRMR
5 factors – all separate	185.31**, 94	0.951	0.062
1 factor – all together	972.94**, 104	0.486	0.141
2 factors (state-trait)	732.87**, 103	0.632	0.125
4 (PTE/E+AT/TPT/TEC)	376.60**, 98	0.835	0.081
4 (PTE+E/AT/TPT/TEC)	314.58**, 98	0.872	0.068
T3	**Chi-square, df**	**CFI**	**SRMR**
5 factors – all separate	152.37**, 94	0.973	0.047
1 factor – all together	1136.53**, 104	0.517	0.172
2 factors (state-trait)	863.52**, 103	0.644	0.130
4 (PTE/E+AT/TPT/TEC)	502.30**, 98	0.811	0.106
4 (PTE+E/AT/TPT/TEC)	313.56**, 98	0.899	0.068

PTE = perspective taking effort; E = empathic concern; AT = positive attributions; TPT = trait perspective taking; TEC = trait empathic concern
$**p<0.001$, n = 238

4.5.5 Demonstrating Factorial Invariance over Time for Team Member Perspective Taking

Further validity of the situational team member perspective taking measure was tested by confirming the absence of 'beta change' in the 2002 and 2003 samples

between T2 and T3. Beta change is detected when item loadings differ over time; it indicates the measurement scale has either stretched or shrunk (Chan, 1998a). To test for this, a measurement model with factor loadings freely estimated was compared with a model where the factor loadings are constrained to be equal across time points. The two models are nested and the Chi-square difference $(\Delta\chi^2)$ is consulted against the difference in the degrees in freedom. If this difference is not significant, the construct can be said to be factorially invariant, and that there is an absence of beta change. This process is referred to as longitudinal mean and covariance structures analysis (LMACS) (Chan, 1998a). Table 4.4 below shows the results of the analyses for each of the perspective taking subscales; these analyses were carried out in MPlus.

Table 4.4 LMACS Analysis Testing for Beta Change in Team Member Perspective Taking Measure (2002 and 2003 samples)

PT dimension	Model 1 (unrestrained)		Model2 (restrained)		$\Delta\chi^2$	Conclusion
	χ^2	df	χ^2	df		
2002 sample						
Perspective taking effort	115.23	19	125.60	26	$\Delta\chi^2 = 10.37$, df = 7	No beta change
Empathic concern	32.90	8	42.50	13	$\Delta\chi^2 = 9.60$, df = 5	No beta change
Positive attributions	38.07	19	49.46	26	$\Delta\chi^2 = 11.39$, df = 7	No beta change
All three subscales	461.30	194	483.99	213	$\Delta\chi^2 = 22.69$, df = 19	No beta change
2003 sample						
Perspective taking effort	38.13	8	45.49	13	$\Delta\chi^2 = 7.36$, df = 5	No beta change
Empathic concern	33.67	8	39.68	13	$\Delta\chi^2 = 6.01$, df = 5	No beta change
Positive attributions	75.54	19	83.15	26	$\Delta\chi^2 = 9.62$, df = 7	No beta change
All three subscales	352.31	155	373.30	172	$\Delta\chi^2 = 21.0$, df = 17	No beta change

**p<0.01; *p<0.05, n = 218 (2002) and 238 (2003)

As can be seen in Table 4.4, restraining factor indicator loadings and means to be equal across time in both the 2002 and 2003 samples didn't significantly reduce the fit of these perspective taking factor models, thus confirming 'measurement invariance' and adding further support to hypothesis 2. This held for each perspective taking indicator individually, and for all three included together in a single measurement model.

Confirming measurement invariance is important for being confident about measuring the same construct over time with the same precision for testing longitudinal associations. Past research has been criticised for often merely assuming measurement invariance, rather than explicitly testing it (Chan, 1998a). Thus researchers carrying out longitudinal research can be more confident that the current measure will operate in a consistently valid manner.

4.5.6 Trait versus State Perspective Taking: Stability Shown by Correlations Across Time

Table 4.5 shows the Pearson correlation coefficients between times T1 and T3 for the trait and state perspective taking variables in the 2003 sample (items at these time points weren't fully available in the 2002 sample). It should again be noted that the trait scales are described and analysed more fully in Study 1b in the next chapter. For now I am primarily concerned with the fact that they are dispositional or trait in nature, and can be contrasted with the three situational team member indicators. A T1-T3 time span was chosen to capture change between the very start of the MBA course and the latter part of the course where the team members were in the midst of feedback and completing the last couple of group assignments. This largest possible time span best captures the potential shifts in perspective taking that comes from working in a diverse group of team members. This is because of the likely general working shift from just starting to get to know each other through to a later period with substantial experience working together and reflecting on feedback.

The results in Table 4.5 provide some descriptive support for general hypothesis 3, or the idea that situational perspective taking is more malleable and changeable over time, whereas trait perspective taking is more stable, indicated by their relatively smaller and larger correlations, respectively. The situational perspective taking correlations are modest and significant at the $p = 0.05$ level or in the case of perspective taking effort, not significant at all. The trait correlations are both highly significant at

the p<0.01 level. However, this support is only descriptive, and further analysis is needed to conclusively show that the state correlations are significantly different from the trait ones.

To test whether the associative pathways between T1 and T3 for trait versus state perspective taking were significantly different in magnitude, the fit indices of pairs of structural models were compared for each team member perspective taking indicator. One structural model allowed the relationships to be freely estimated whilst the other fixed the trait and state relationships as equal. The results of these analyses are shown below in Table 4.6. As can be seen, these results provide further support for hypothesis 3: restraining the trait and state perspective taking associations across time to be equal led to a significant worsening of fit ($\Delta\chi^2$) in the structural models for all three indicators, suggesting that the relevant differences between the magnitude of trait and state correlations across time shown in Table 4.5 are of a significant nature.

Thus the situational team member perspective taking measure is further validated by evidence showing that to some extent it potentially varies over time, within individuals and across situations; more than complementary trait measures of perspective taking and empathic concern.

Table 4.5 Stability Correlations of Trait and State Perspective Taking Measures in the 2003 Sample

Construct Across Time (T1-T3)	Correlation coefficient
Trait P-T	0.57**
Trait empathic concern	0.61**
State P-T effort	0.12
State P-T empathic concern	0.45**
State P-T positive attributions	0.19*

**p<0.01; *p<0.05; n = 238

4.6 Discussion

4.6.1 Study 1a Strengths and Limitations

There was generally very meaningful support for all the hypotheses, in line with a situational or state view of the concept of perspective taking operating amongst

Table 4.6 Structural Models Comparing Equality of Trait and State Perspective Taking Associations Across Time (T1-T3) in the 2003 Sample

PT dimension	Model 1 (unrestrained; trait and state unequal)		Model 2 (restrained; trait and state equal)		$\Delta\chi^2$	Conclusion
	χ^2	df	χ^2	df		
Trait Perspective Taking						
PT effort	226.58**	73	234.96**	74	$\Delta\chi^2 = 8.38**$, df = 1	Trait is more stable
Empathic concern	94.18**	50	98.26**	51	$\Delta\chi^2 = 4.08*$, df = 1	Trait is more stable
Positive attributions	112.57**	73	118.84**	74	$\Delta\chi^2 = 6.27*$, df = 1	Trait is more stable
Trait Empathic Concern						
PT effort	257.18**	73	267.20**	74	$\Delta\chi^2 = 10.02**$, df = 1	Trait is more stable
Empathic concern	156.46**	50	164.73**	51	$\Delta\chi^2 = 8.27**$, df = 1	Trait is more stable
Positive attributions	153.11**	73	162.16**	74	$\Delta\chi^2 = 9.05**$, df = 1	Trait is more stable

**p<0.01; *p<0.05; n = 238

diverse team members. The study met all its aims, in terms of conceptually and empirically validating state perspective taking indicators, confirming their situational nature in a population where teamwork and diversity are highly relevant issues. The study adds support to related organisational research on attributions and empathic concern, reinforcing confidence in their utility, and expanding such work by adding the effort scale (Axtell et al, 2007; Parker & Axtell, 2001; Williams et al, 2007).

The perspective taking scales were successfully validated using independent samples with multiple time points. Thus it can be concluded that the measure can be used productively in further research with similar, relatively high levels of rigour. A specific test for beta change (not often checked for in longitudinal research) showed that respondents are likely to interpret and use the scale in a consistent and precise manner at multiple time points (Chan, 1998a).

The measure is likely to valuably generalise for use in a variety of workplace settings that involve teamwork, diversity, and interdependent workflows. Although an MBA sample arguably differs from workplace samples in some aspects (e.g. course grades rather than pay), the groups were highly diverse, working towards important

career-related outcomes and sharing complex information. Furthermore, many of the team members had significant management experience from a range of industries. In terms of the teamwork literature, they are probably most similar to cross-functional project teams; teams that try and use their diversity to generate and implement innovative solutions under pressure (Lovelace et al, 2001). In sum, the current MBA sample shows that these distinct situational perspective taking aspects hold for people working in groups, people working with global and functional diversity, and people trying to come up with creative, high performance solutions under realistic time constraints.

Perspective taking itself has a large content domain, and it would seem that the foremost limitation of a study like this is that this is only a first step in designing measures for a full situational construct domain. For example, perspective taking tasks themselves can vary in difficulty and according to many dimensions of the social context, including similarity, familiarity, morality, concreteness, and temporality (Gehlbach, 2004; Parker et al, 2008).

4.6.2 Implications of Study 1a

This study is an important first step towards further validation of the perspective taking indicators identified in various contexts where different parties are expected to interact at work. There are likely to be practical organisational scenarios where particular indicators carry a lot of specific emphasis. Example contexts might include *perspective taking effort* under high pressure in ethical decision-making or conflict scenarios with diverse, opposing stakeholders (Phillips, 2003; Sonenshein, 2007), the *empathic concern* shown in customer service interactions (Axtell et al, 2007); and the *positive attributions* diverse individuals are using to make sense of an organizational change process (Silvester et al, 1999).

The study also opens up new avenues for researchers to analyse trait and state perspective taking simultaneously (as is also done in study 1b of this thesis). The study shows that they can operate distinctly as measurement factors and behave differently over time, in line with what we would expect, with the state measures showing less potential stability. Modelling both will allow researchers to better understand how state aspects of perspective taking are potentially more amenable to training or contextual support, and trait aspects are more fixed and inherent to particular types of employees at a selection stage. Correlations and structural path comparisons revealed that team

member perspective taking is more situation-specific and changeable over time than more consistent levels of everyday trait perspective taking and an empathically concerned disposition. This provides employers with some initial information on which to build a continuum of targeted HR interventions.

This study has taken an important step in parsimoniously assessing three ways perspective taking can vary in cooperative teamwork situations. I have pursued this goal by taking timely stock of laboratory and field research on perspective taking, contributing a new effort indicator, and adding further support for empathic concern and other-oriented attributions indicators used in early field research.

4.6.3 The Next Chapter and Study

The next chapter introduces Study 1b, which demonstrates that individual level 'team member perspective taking' indicators are related to important team member outcomes. The situational team member perspective taking indicators are longitudinally related to distinct workplace dispositions, states, and behaviours. I also aim with this next study to follow up Study 1a's 'trait versus state' hypothesis 3 in more detail. I achieve this by showing that situational perspective taking can complement and explain the trait's impact via its more dynamic, stronger associations with outcomes.

Chapter 5: Antecedents, Moderators, and Outcomes of Team Member Perspective Taking

5.1 Chapter Overview

In this chapter, focusing on the individual level of analysis, I will:

- Investigate whether indicators of team member perspective taking validated in Study 1a positively relate to prosocial team member outcomes that are important for teams with diverse members.

- Investigate whether the perspective taking effort indicator mediates the effects of trait perspective taking on other perspective taking indicators and team member outcomes.

- Investigate whether team members' self-esteem and perceptions of task interdependence act as moderators or boundary conditions of team member perspective taking relationships with outcomes.

5.2 Study 1b: Context and Aims

The focus of the current study is on establishing a nomological net around team member perspective taking indicators. This contributes towards establishing the criterion validity of the situational perspective taking indicators developed in study 1a (Hinkin, 1998).

As with Study 1a, this study, Study 1b, utilises survey data collected at three time points in the executive year (EY or 'final year') 2002 of a postgraduate MBA programme.

Specifically, the first aim of study 1b is to shed light on how team member perspective taking relates to prosocial team member outcomes, including role clarity, helping, and conflict management. The study capitalises on the longitudinal strengths of the three time point design inherent in the 2002 MBA sample, testing reciprocal main effects of team member perspective taking across time with as much causal rigour as possible (Zapf, Dormann, & Frese, 1996).

The second aim is to investigate how the three situational indicators contribute to team outcomes over and above trait or dispositional perspective taking. By controlling for trait perspective taking generally in the study, I show how all three situational perspective taking indicators can explain additional variance in relevant

outcomes. I also test whether the 'process' perspective taking effort indicator mediates the relationships of trait perspective taking with team member outcomes. Thus I aim to show how team member perspective taking effort is a key proximal mechanism that partly explains trait perspective taking's more distal associations with team member outcomes.

The third aim is to investigate whether there is any causal ordering amongst the indicators of team member perspective taking. As discussed in Chapter 4, positive attributions and empathic concern can be seen as relatively late emergent 'results' of perspective taking. I therefore test the possibility that perceived perspective taking effort to appreciate difference – the core 'process' indicator – partly explains trait perspective taking's relations with positive team member attributions and empathic concern. This derives from theory suggesting that perspective taking occurs in aim-information-process-results chains (Davis, 2005).

The final aim of this study is to identify who experiences most success with perspective taking and when. To achieve this, I test whether a team member's self-esteem or perceptions of task interdependence can potentially strengthen team member perspective taking relationships.

Figure 5.1 below summarises the key relationships investigated in the study. The theory and hypotheses underlying these relationships are expanded upon in the following sections.

Figure 5.1 Study 1b: Key Relationships

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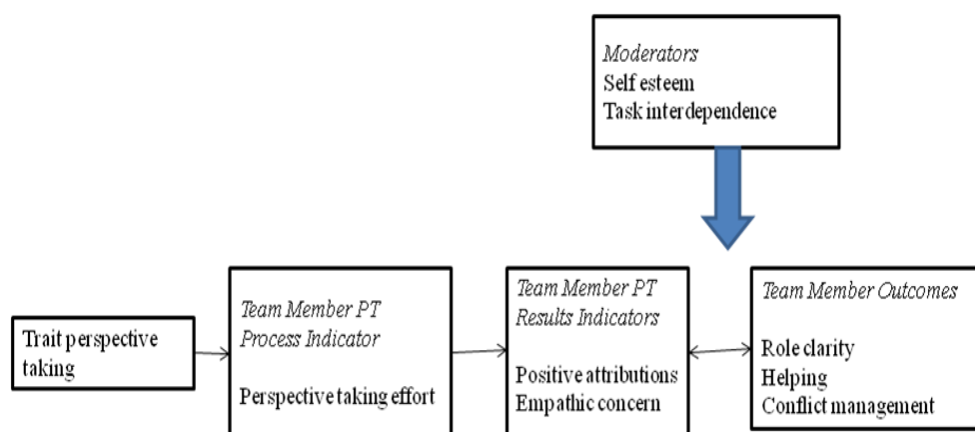
5.3 Theory Development and Hypotheses

This study considers three important outcomes: team member role clarity, helping, and conflict management. I discuss the rationale for each outcome next, and their proposed associations with perspective taking.

5.3.1 Team Member Role Clarity

Team member role clarity in the current study refers to an individual reporting a clear perceived sense of objectives, plans, and responsibilities pertaining to the team member. Diverse, self-managing teams such as the MBA teams in this sample need a constructive process of structuring their work, otherwise their autonomy and interdependence will fall, and the team come apart at the seams (Langfred, 2007).

I argue here that team members that take perspective more with each other are more likely to feel and acknowledge the existence of different roles, and thereby experience greater role clarity. Social information processing theory maintains that team members would use information about what other people think (i.e. their perspectives) to develop attitudes and task designs (Salancik & Pfeffer, 1978). High perspective takers are likely to attend to this information more deeply, and use it to compare their own roles with other possible team roles (Greenberg, Ashton-James, & Ashkanasy, 2007), ultimately perceiving a greater sense of clarity. This is in contrast with someone relatively egocentric and withdrawn in the team who might therefore lack the clarity to participate with diverse others. Perspective taking itself has often been traditionally referred to as 'role taking' (Mead, 1934).

In terms of the empathic concern indicator, for example, understanding of roles typically relates to emotional reactions to pressures and responsibilities. These issues have often been researched in the workplace in relation to stress (Bliese & Castro, 2000). Thus engaging in empathic concern and working through the stresses of clearing up roles and supporting other team members in their roles is likely to lead to a better understanding of one's own role. One key source of emotional vulnerability amongst team members is their self-discrepancies; what they can do versus what they can't do, should do, or would like to do (Houston, 1990). These emotions can be shared through empathic concern, leading team members to discern more clearly where their roles should appropriately lie.

From the perspective of affective events theory, employees have situation-specific emotional reactions to task demands, autonomy, hassles and other events

(Weiss & Cropanzano, 1996). Empathic concern offers a potential route for learning about these events by participating in the feeling of them by other team members. By engaging in empathic concern and marking these affective events, a team member can gain a better appreciation of the landscape of their own role and anticipate more realistic, adaptive appraisals of it. Social comparison theory also suggests that individuals often compare their affective responses to stressors with those of others facing those same stressors (e.g. role demands) (Greenberg et al, 2007). Empathic concern could be conceived of as a particular prosocial case of affective social comparison.

For another example, considering the perspective taking effort indicator, this typically involves an adjustment or weighting process (e.g. Wills & Moore, 1996) and recent models of team member performance show that a clearer understanding of team roles is gained by comparing and contrasting their contribution in relation to performance (Humphrey, Morgeson, & Mannor, 2009). Furthermore, in 'hidden profile' tasks each team member has uniquely contrasting information that it is important to bring to the table, and assigning roles early on leads to a more effective task performance and complete information sharing (Stasser et al, 2000). One way perspective taking efforts towards others' contrasting viewpoints might also help then is in fostering this role assignment by recognising people as equipped differently for approaching tasks, and seeing clearly where one's own role fits into the interdependent set of approaches.

- *Hypothesis 1: Team member perspective taking is significantly positively related to team member role clarity*

5.3.2 Team Member Helping Behaviour

Team member helping behaviour is defined here as using one's discretion to encourage others, keep them abreast of work, and take time to discuss problems with them (Podsakoff, Ahearne, & Mackenzie, 1997). Perspective taking has a strong empirical link with helping targets who appear to need or deserve it, or diverse others with different group memberships (Batson et al, 1997; Davis, 2005; Galinsky et al, 2005; Oswald, 2002). This is probably accomplished via a combination of mechanisms including noticing when people need help, anticipating future beneficial contact or

successful interaction, and feeling that others deserve to be helped; that their welfare is valuable (Batson et al, 2007).

Perspective taking has been linked to intentions to help victims and outgroup members (Graziano et al, 2007). In the workplace, it has been linked to helpful customer service behaviours (Axtell et al, 2007). Perspective taking as a concept has a research tradition of promoting cooperation, helping others to understand meanings, and being a democratic citizen, which includes helping others in difficulty (Galinsky et al, 2005; Gurin et al, 2002; Mead, 1934).

This is particularly important in diverse teams, where various members often need help arising from discrepancies in life experiences, background situations, and understanding. It is a basic and natural step in any perspective taking act between noticing someone can be easily helped and offering such help at relatively little cost to the self (Batson, 1991).

- *Hypothesis 2: Team member perspective taking is significantly positively related to team member helping behaviour*

5.3.3 Team Member Conflict Management Behaviour

Conflict management for this study is defined in terms of team members' tendencies to work through conflicts and resolve them in constructive and useful ways (Campion, Medsker, & Higgs, 1993). Perspective taking has been proposed to guide representation of controversial workplace ethical issues from multiple viewpoints, enabling organisational actors to celebrate and make sense of the bigger picture (Sonenshein, 2007). This is likely to be important between diverse team members, where such discussions arise over complex projects and their outcomes. The relationship may also be reciprocal, given the ad hoc, sensemaking nature of learning partly after conflicts have been resolved. Perspective taking has also been shown to enable team members to perceive conflict in more constructive, task-based terms rather than taking it too personally (Sessa, 1996). It is beneficial for reducing naïve realism and promoting an open acceptance that people can disagree (Ross & Ward, 1996).

To some extent, perspective taking is stimulated by the mere presence of constructive controversy amongst others working on a task, and the necessity of attending to it (Tjosvold & Johnson, 1977). Psychological laboratory research has further measured and placed perspective taking in models of apology, forgiveness, and

mutually beneficial resolutions such as compromise and integration (Davis, 1996; O'Connell Corcoran & Mallinckrodt, 2001; Takaku, 2001).

Considering the empathic concern indicator, for example, is appropriate given that emotionality and resolution potential are both defining, interrelated dimensions of any conflict (Jehn, 1997). A review of social psychological research on empathic concern and conflict management shows some evidence that perspective taking in general and empathic concern are involved with this outcome (Davis, 1996). However, the evidence is far from conclusive and nearly all the research uses a trait measure rather than the state indicator approach being pursued here. Dispositional empathy seems to play some role in at least reducing hostility and aggressive responding (Richardson, Green, & Largo, 1998), although its more precise role in predicting number of conflicts and behaviours remains more ambiguous (Davis, 1996). However, it would seem important to add evidence to this body of work by re-testing this hypothesis with new measures and in a new context. A recent study on same-sex adolescent friendships further confirmed dispositional empathic concern's positive relationship with active problem-solving conflict resolution styles, as opposed to avoidance or escalation (deWied, Branje, & Meeus, 2007).

Taking the perspective taking effort indicator as another example - an attentive, patient curiosity about different, sometimes opposing views should lead very naturally into more successful conflict resolution behaviours. In the airline industry, the successful Southwest Airlines encourage getting conflicting parties face-to-face in a 'Come to Jesus' meeting, where both parties make the effort to talk through their conflict and re-attend to the key issues in a separated atmosphere of mutual respect (Gittell, 2005). Southwest's President reported that "it is wonderful to see the lights go on in people's eyes when they understand the other person's point of view" (Gittell, 2005, p112). Similarly, positive psychological research argues that an attitude of learning from conflict can be developed with the right expectations, inquiry, and an awareness of the bigger picture (Davidson & James, 2007). Having the right expectations and attention to conflict is promoted by a perspective taking motivation to embrace uncertainty. Specifically, this is the subtle capacity to avoid naïve realism and acknowledge that there are compromises and different ways of labelling a conflict situation rather than 'my way or the high way' (Ross & Ward, 1996).

The attitudes and values of team member perspective taking effort can be expressed philosophically in at least two ways. Firstly, this form of perspective taking

can be appreciated via a constructivist philosophy of mind. This is virtually the opposite of naïve realism – a worldview proposing there is no unique 'real world', but as many possible realities as there are minds to create them, with no one person's viewpoint being ontologically privileged (Bruner, 2002). This ability to hold contrasting perspectives in the mind simultaneously develops slowly throughout adulthood, although can be encouraged to appropriate degrees by patient reflection and interpretation of perspective-based scenarios (Kegan, 1994).

A second philosophical stance that describes perspective taking effort is dialectical thinking. Dialectical thinking is grounded in an expectation to transform and reconcile contradiction by attending to it and integrating it into a higher-order synthesis (Basseches, 2005). Simply put, it is like viewing conflict as an evolving phenomenon where the whole can be greater than the sum of its parts.

- *Hypothesis 3: Team member perspective taking is significantly positively related to team member conflict management*

5.3.4 Reciprocal Relationships Between Team Member Perspective Taking and Team Member Outcomes

Reciprocal effects are possible for the main effect hypotheses (1-3) because perspective taking is inherently a cyclical process. The social cognitive revolution in psychology acknowledges that in the diversity of modern life, parties often engage in 'meaning-making' *through their acts* (Bruner, 1990). More recent work specifically on perspective taking argues that through their actions, communications, and representations, functionally diverse workers 'perspective make' as well as perspective take (Boland & Tenkasi, 2001). It is likely that part of the time, diverse interactants act/construe first, and then engage in proper perspective taking reflection as a result of their actions (Sonenshein, 2007). In reviewing prosocial behaviours like team member helping, one conclusion is that they involve ongoing reciprocal patterns of perception and action (Penner et al, 2005).

Perspective taking is very unlikely to be wholly intellectual and amenable to success entirely through thought or 'mind reading' (Ickes, 2003). It is more likely to be achieved pragmatically, where positive, prosocial interactions provide input for further bouts of perspective taking (Fiske, 1992). Umbrella terms for this team member process might be 'adaptation' or 'sensemaking' (Weick, 1995). Helping, enacting clear roles,

and conflict management behaviour are particularly powerful examples of team members' adaptation to a relatively dynamic, unpredictable environment (Ilgen, Hollenbeck, Johnson, & Jundt, 2005). It is also likely that team member diversity itself will be a core component of this dynamism or unpredictability in a team's environment.

The current study hypothesises that for all main effects of team member perspective taking, reciprocal pathways are also likely to exist. Nevertheless, given perspective taking's generally spontaneous perceptual nature, the expectation is that reciprocal effects will typically be smaller in magnitude than the driving effects of perspective taking in the other direction.

- *Hypothesis 4: There are significant positive reciprocal pathways from team member outcomes to team member perspective taking*

5.3.5 Team Member Perspective Taking Effort as a State Mediator of Trait Perspective Taking's Links with Perspective Taking 'Results' and Team Member Outcomes

In keeping with recent conceptualisations of perspective taking as multifaceted and comprising several stages in sequence (Davis, 2005), a mediating sequence is proposed here, in order to add more explanation to how the main effects proposed might work. I argue that perspective taking effort as the 'process' indicator is more proximal to trait perspective taking, and mediates more distal associations between trait perspective taking and the 'results' indicators, empathic concern and positive attributions. Perspective taking effort also is proposed in its role as the key 'process' indicator to mediate between trait perspective taking and the team member outcomes.

These hypotheses are derived from theory and research based around updating the overall pathways or sequential aspects of perspective taking (Kerem et al, 2001; Parker et al, 2008). The trait to state aspect of the mediations derives from the general logic that social-cognitive constructs have a distal dispositional base that feeds into more specific situational states proximal to flexible states/behaviours (e.g. trait to state goal orientation; Payne, Youngcourt, & Beaubien, 2007). The differentiation between the state indicators themselves comes from the research arguments that positive attributions and empathic concern are more emergent 'results' or 'manifestations' of perspective taking than purer process or information-based forms (Parker & Axtell, 2001).

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I propose here that perspective taking effort is closer to dispositional or trait perspective taking and mediates the latter's association with specific team member state/behaviour outcomes. Registering differences and any conflicts of interest would seem to be the defining process form of the subscales, involving directly adjusting one's own viewpoint and gathering divergent information. Positive attributions and empathic concern can be seen as the indicators more distal from general dispositional perspective taking that flow from initial perspective taking efforts. Positive attributions and empathic concern indicate what a team member might say, feel, or act upon *in situ*, as the result of the more generic, earlier process of registering basic differences in perspectives. Attributions and felt emotions represent ends in themselves. They are relatively more contextualised conclusions of a perspective taking attempt.

Regulated emotional responses and causal attributions represent inferences, explanations, and behaviours (Martinko et al, 2006; Weiss & Cropanzano, 1996), rather than the initial seeking and representation of the perspectives themselves (i.e. contrasts). In sum, perspective taking effort is a key mechanism that intervenes between trait perspective taking and the other team member perspective taking indicators, as well as team member outcomes. It captures the translation from baseline individual differences into the commitment and engagement a team member can muster for a particular perspective taking task in a specific situation. I would also refer the reader back to Figure 4.1 in the previous chapter, where I initially make the conceptual distinction between 'process' and 'result' for the perspective taking indicators.

- *Hypothesis 5a: Perspective taking effort mediates between trait perspective taking and team member outcomes*
- *Hypothesis 5b: Perspective taking effort mediates between trait perspective taking and positive attributions/empathic concern*

5.3.6 Moderators of the Links Between Team Member Perspective Taking and Outcomes

Perceived task interdependence and dispositional self-esteem are proposed here as moderators that positively strengthen perspective taking main effects. Dispositional self-esteem represents a relatively stable tendency across situations and time to have general positively emotional and motivational attitudes towards oneself (Leary, Tambor, Terdal, & Downs, 1995). Team member interdependence captures perceptions of the

extent to which team members must work together cooperatively and interactively to complete work tasks (Stewart & Barrick, 2000).

Firstly, there is a general argument here underlying self-esteem as a supportive moderator strengthening perspective taking-outcome relationships through the socially positive sense of confidence and agency provided. In the laboratory, trait and state self-esteem positively strengthen the link between perspective taking and positive evaluations of outgroups; supporting the idea that feeling good about oneself provides a bridge for feeling good about interactions with others (Galinsky & Ku, 2004).

On the other hand, if self-esteem is low and a person feels threatened, this can tend to behaviourally derail an interaction, with parties defensively re-asserting their diversity, and the benefits of perspective taking being converted away into cynicism, withdrawal, competitiveness, and self-preservation (Epley et al, 2006; Gollwitzer & Wicklund, 1985; Vorauer & Ross, 1999). When self-esteem is lower as a result of perceived identity threat from diverse team members, perspective taking's linkages with outcomes will be interfered with due to ultimate categorisation and stereotyping of others (Van Knippenberg & Schippers, 2006).

 In sum, perspective taking involves positive interpretations of social interactions leading to prosocial states and behaviours. Self-esteem will strengthen and enhance perspective taking's effects to the extent that associated positive emotions and beliefs make ensuing social judgements and behaviours appear more feasible, beneficial, and full of opportunity. High self-esteem helps to channel more perspective taking capacity into behaviours and cognitions that serve others because fewer resources are diverted to deal with self-related concerns. In addition, if team members feel good about themselves, then they can feel more confident that perspective taking efforts will pay off; feel more confident in acting on them and drawing conclusions from them (Gehlbach et al, 2008). Self-esteem moderates the impact of perspective taking on outcomes by sustaining attention towards the other and creating a sense of positive affect and agency about perspective taking efforts and inferences.

Secondly, perceptions of task interdependence are also proposed here to moderate perspective taking relationships, strengthening them in a positive direction, in a similar way to self-esteem. Workplace research has shown that if team members performing diverse functions don't acknowledge interdependence and overlapping task boundaries, this creates barriers to creative product generation. Departments become narrow and restricted to their own perspectives or 'thought worlds', impeding efficient

project performances (Dougherty, 1992). Theories and research on cooperative group learning include perceived task interdependence and perspective taking side by side as mutually reinforcing conditions for achieving effective interpersonal relationships (Johnson et al, 2007).

Perceptions of interdependence create a source of motivation for team members to keep in closer contact with one another (Wageman, 1995); a reliable contact which has been shown in laboratory interactions to support perspective taking outcomes via related states (e.g. reduced anxiety) across diverse individuals' social boundaries (Aberson & Haag, 2007). Perceived team task interdependence is included in a good deal of teamworking and diversity research as a contextual moderator, beneficially intensifying the main effects of different perspectives (Joshi & Roh, 2009). In short, a team member can't use their perspective taking, act on it, or take it any further if there isn't a workflow rationale or social reliance to justify it in the first place.

Team members that take perspective and at the same time perceive that the other team member can benefit from depending on them to complete work will be motivated to cement a relationship by displaying prosocial, helpful states/outcomes, also in the hope of potential future successful, mutually beneficial interaction and belonging (Barry & Crant, 2000; Baumeister & Leary, 1995; Duan, 2000; Grant, 2007).

- *Hypothesis 6a: Dispositional self-esteem moderates main effects of team member perspective taking on team member outcomes, such that those higher in self-esteem show stronger positive relationships*
- *Hypothesis 6b: Perceptions of task interdependence moderate main effects of team member perspective taking on team member outcomes, such that those that perceive more interdependence show stronger positive relationships*

5.4 Method

5.4.1 Sample and Data Collection

The final 2002 sample used was exactly the same as that described in the method section for study 1a in chapter three of this thesis.

Given the current theoretical purposes, control measures and moderators were selected as measured at the first time point, team member perspective taking and outcomes at the second and third, as shown in the design model in Figure 5.2 below. As

in study 1a (see Chapter 4, Figure 4.2), T1 describes measures taken in the first week of a 38-week academic year, where T2 and T3 describe measures taken in weeks 18-20 and 28-30, respectively.

The flow of causality underlying Figures 5.1 and 5.2 is from trait perspective taking through to team member outcomes, with both moderators as stable background variables and situational team member perspective taking as intervening variables. Having the team member perspective taking indicators and team member outcomes at two time points allowed for some assessment of causality and reciprocal relationships.

Age, gender, trait perspective taking, trait empathic concern, teamworking preferences, and teamwork experiences were all entered as controls into regression analyses. Perspective taking has been found to improve somewhat throughout adulthood and with relevant life experiences, and there is also some mixed evidence showing that self-reports can sometimes be higher amongst women (Davis, 1996; Kegan, 1994; Pratt et al, 1996). I controlled for trait perspective taking and trait empathic concern to build on study 1a and again show the distinctive contribution of perspective taking indicators over and above related trait/dispositional measures. I also wanted to show their predictive value on top of any other general alternative social skills held by professional teamworking adults (e.g. active listening, influence, relationship-building, impression management) (Klein et al, 2006). Preferences for teamworking and prior teamworking experience can be important selection criteria for including people in teams, and are positively related to contextual team member performances (Morgeson, Reider, & Campion, 2005).

5.4.2 Measures and Factor Analyses

The blocks of main study variable items in Figure 5.2 were subjected to exploratory factor analyses at each time point to assess the suitability of combining items to form these relevant scales.

The factors were extracted using principal axis factoring (PAF), and an oblique rotation allowing the factors to correlate (Hinkin, 1998). Scree plots, Eigenvalues greater than or close to one, and pattern matrices were consulted to make decisions on final item inclusion. Items were generally considered to satisfactorily represent their scale if: they had factor loadings greater than 0.4 on the intended constructs and no cross-loadings greater than 0.4 on other distinct constructs (Hinkin, 1998). Most scales

Figure 5.2 Study 1b: Measurement Design with Time Points for Study Variables
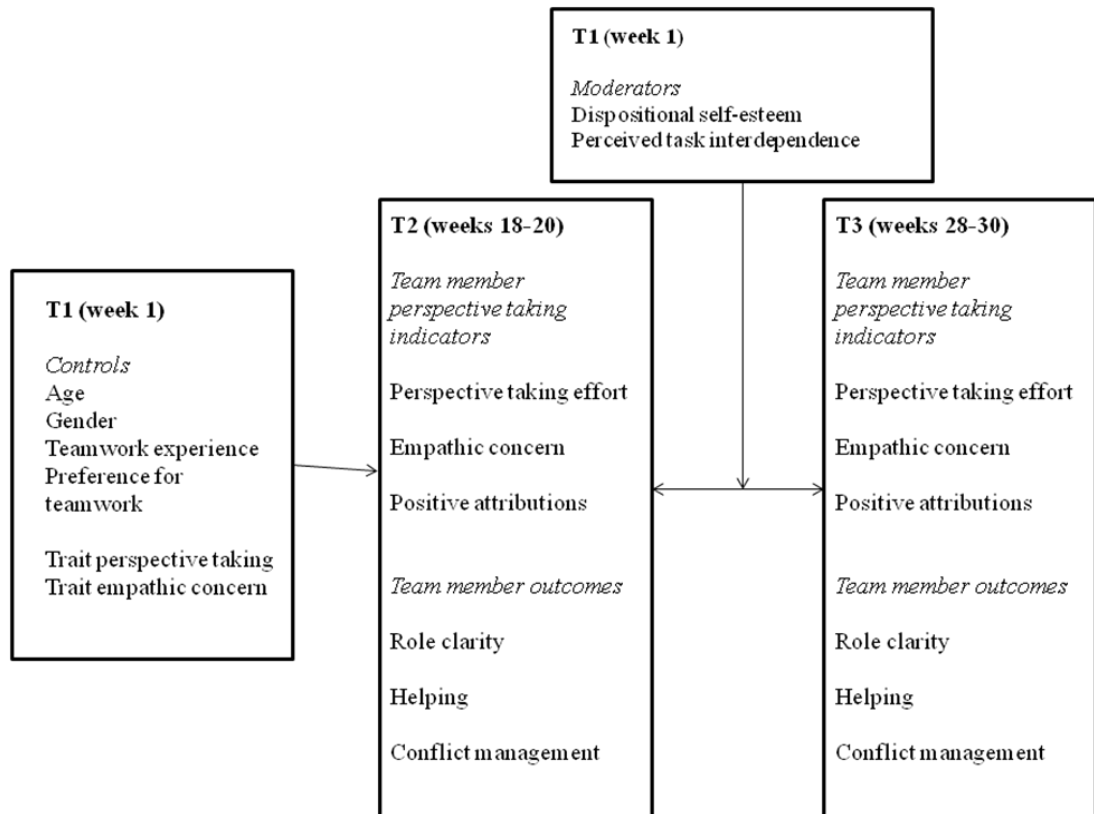
were three to five item versions of well-established measures, with the exception of the team member perspective taking indicators, which were independently validated in study 1a, Chapter 4. Some measures have fewer items than the original measures from the literature because they have been shortened across previous pilot administrations within the dataset, by taking a concise set of the top items with the strongest factor loadings to represent the construct. Unless otherwise stated, all scales used five point Likert response formats with the anchors 'Strongly Agree' and 'Strongly Disagree'. The basic characteristics of the study measures are as follows.

5.4.2.1 Teamwork Experience, Preference for Teamwork, and Task Interdependence

Through factor analysis, task interdependence, teamwork experience, and preference for teamwork yielded the expected three factor solution at T1, with all items loading consistently onto their respective factors. These scales were factor analysed together because they were measured at the same time point, and it was important to discriminate between concepts looking at various teamwork perceptions.

Interdependence was a five item scale developed from Thompson's (1967) definitions of pooled, sequential, and reciprocal task work designs. The scale had satisfactory Cronbach's alpha reliability (α =0.71). Example items include: 'I work closely with others', 'the way I perform my task has a significant impact on others', and 'I frequently discuss ideas about teamwork with other team members'.

Teamworking experience was a four item scale asking generic questions about previous experience with leading teams, and being on functionally, educationally, or culturally diverse teams. The scale had satisfactory Cronbach's alpha reliability (α =0.74). The response anchors were 'Never' and 'A lot'.

Preference for teamworking was a three item scale using basic statements derived from work on effective team working (Campion et al, 1993). The scale had satisfactory reliability (α =0.88). The items used were 'I generally prefer to work as part of a team', 'if given the choice, I would prefer to work as part of a team rather than work alone', and 'I find that working as a member of a team increases my ability to perform effectively'.

5.4.2.2 Trait/Dispositional Variables

The trait or dispositional variables (trait perspective taking; trait empathic concern; self-esteem) were factor analysed together because they were measured at the same time point, and it was empirically important to show that stable personality/trait concepts could be clearly distinguished in the data. To preserve space and minimise time taken to complete the survey, only the top three highest loading items of the Davis (1983) perspective taking and empathic concern scales had been retained from previous pilot administrations. In the current analysis, the items yielded the expected three factor solution at T1. A self-esteem item was removed due to poor loading (<0.4), and in the final solution, all items loaded consistently on their respective factors.

The trait perspective taking and trait empathic concern measures were each made up of three items, drawn from the interpersonal reactivity index (IRI) (Davis, 1983). Trait perspective taking had satisfactory reliability (α =0.88), as did trait empathic concern (α =0.80). The trait perspective taking items used were 'before criticising somebody, I try to imagine how I would feel if I were in their place', 'I sometimes try to understand my friends better by imagining how things look from their perspective' and 'when I'm upset at someone, I usually try to "put myself in his shoes" for a while'. The trait empathic concern items used were 'I often have tender, concerned

feelings for people less fortunate than me', 'I would describe myself as a pretty soft-hearted person', and 'I am often quite touched by things that I see happen'.

The self-esteem measure was ultimately made up of two items, drawn from a widely used global self-esteem scale (Rosenberg, 1965). The scale had satisfactory reliability ($\alpha =0.79$). The items used were 'I feel I have a number of good qualities' and 'I can do things as well as most people'.

5.4.2.3 Team Member Perspective Taking Indicators

The factor analyses for situational perspective taking at T2 and T3 in 2002 are reported in Study 1a, Chapter 4 of this thesis, which validates the three subscales (perspective taking effort; empathic concern; positive attributions) and their final items in more detail. In Chapter 4, the situational perspective taking scales are also successfully validated and distinguished from trait perspective taking in the reported factor analyses.

5.4.2.4 Team Member Outcomes

Team member role clarity, helping behaviour, and conflict management behaviour were factor analysed as a block, and the three factor structure was supported separately at both T2 and T3, with all items loading consistently onto their respective factors. Scale reliabilities are given in brackets, in the form (α = T2α, T3α).

The role clarity measure was made up of three items from prior research on role ambiguity (Rizzo, House, & Lirtzman, 1970), with the wording reversed to reflect role clarity. The scale showed satisfactory reliability at T2 and T3 (α = 0.86, 0.85). The response anchors ranged 'never' through to 'all of the time'. The items used were 'I know what my responsibilities are', 'I have clear, planned goals and objectives that guide my contribution', and 'I know exactly what is expected of me'.

The team member helping behaviour measure was made up of three items taken from prior research on this construct (Podsakoff et al, 1997), and the scale showed satisfactory reliability at T2 and T3 (α = 0.88, 0.93). The items used were 'I help other team members if they fall behind in their work', 'I willingly give time to help team members who have work-related problems', and 'I encourage other team members when they are feeling down'.

The team member conflict management behaviour measure was made up of three items derived from prior research on team member effectiveness (Campion et al,

1993), and the scale showed satisfactory reliability at T2 and T3 ($\alpha = 0.93, 0.92$). The response anchors ranged 'never' through to 'all of the time'. The items used were 'do you work through differences of opinion in a useful way?', 'do you deal with conflicts constructively?', and 'do you usually resolve personal disagreements?'

5.5 Analysis Strategy

Several analytical steps were designed to test all the study hypotheses. They are as follows.

5.5.1 Correlations and Descriptives

Correlation matrices were formed using the study variables, and the Pearson's R correlation coefficients examined as initial evidence of significant relationships. The means and standard deviations for all study variables were also computed.

5.5.2 Lagged Regressions with Controls

To test the main effects hypothesised for this study across time points (study hypotheses 1-4), lagged hierarchical regressions were carried out. A lagged predictor variable (the dependent variable at earlier time point T2) was included at the first step of each hierarchical regression. The advantages of analysing the data this way include: taking firmer advantage of the full two-wave panel design that can be imposed on this data, taking a more stringent look at reverse causality, and relating independent variables to changes in dependent variables (Zapf et al, 1996).

The hierarchical regression tables are presented to show each step in predicting an outcome in each column. Step 1 R^2 reports the proportion of variance in the outcome explained by the controls and the time-lagged outcome predictor, step 2 R^2 reports the proportion of variance in the outcome explained by adding the main predictors of interest (in this case, the team member state perspective taking indicators or outcomes), and step1-step2 ΔR^2 reports the incremental variance explained in the outcome by the main predictors of interest, over and above the control variables and time-lagged predictor from step 1.

Lagged regression analyses don't fully prove causation, however, they can "yield suggestive results concerning both the strength and direction of the causation between variables" (Kerr & Schriesheim, 1974, p563, cited in Williams & Podsakoff, 1989, p248). Given some of the statistical assumptions required and often violated by

this technique, a common problem is that lagged control parameters are overestimated, while the coefficient predictor parameters (the ones of interest) are underestimated (Williams & Podsakoff, 1989). Therefore in this study further analyses were conducted to cross-validate the main effect tests of these lagged regressions.

5.5.3 Structural Equation Models (SEMs)

A further analytical step in testing study hypotheses 1-4 was to use two-wave latent variable SEM analyses to assess *causal* longitudinal impacts of reciprocal main effects most rigorously (Williams & Podsakoff, 1989; Zapf, Dormann, & Frese, 1996). These analyses tested all possible reciprocal main effects simultaneously whilst accounting for measurement error, and provided further information in response to the specific hypotheses about the individual perspective taking scales.

5.5.4 Moderation and Mediation Analyses

The mediation tests (hypotheses 5a and 5b) were carried out using hierarchical regressions and Sobel tests. They weren't tested using lagged regressions or SEM models for methodological reasons. Lagged regressions can cause biased attenuation of predictor effects (Williams & Podsakoff, 1989). For SEM models, larger sample sizes, and more well-established, self-contained bodies of research are recommended for proper evaluation of parameters and models (Kelloway, 1996). Therefore, these techniques didn't seem appropriate in light of the exploratory spirit of testing perspective taking in more depth than straightforward main effects.

The mediated regression tables show each step in predicting an outcome in each column. Step 1 R^2 reports the proportion of variance in the outcome explained by the controls, step 2 R^2 reports the total proportion of variance in the outcome explained by adding the main predictors of interest (in this case, the independent variables and mediators), and step1-step2 ΔR^2 reports the incremental variance explained in the outcome by the main predictors of interest, over and above the control variables from step 1.

The same arguments for not using lagged regression or SEM apply to moderation analyses (testing hypotheses 6a and 6b). These were carried out using moderated regression with a controls step, a centred predictors step, and cross-product interaction terms at the final step. Where interactions were significant, simple slope tests were also reported to identify any significant differing gradients and directions at high

and low levels of the moderator (+/- 1 SD away from the mean). Significant moderations were also captured by graphs to aid interpretation.

The hierarchical moderated regression tables show each step in predicting an outcome in each column. Step 1 R^2 reports the proportion of variance in the outcome explained by the controls, step 2 R^2 reports the total proportion of variance in the outcome explained by adding the main predictors of interest (in this case, the independent variables and the moderators), and step1-step2 ΔR^2 reports the incremental variance explained in the outcome by the main predictors of interest, over and above the control variables from step 1. Finally, step 3 R^2 reports the total proportion of variance explained in the outcome by adding the interaction product term, with step2-step3 ΔR^2 reporting the incremental variance explained in the outcome by the interaction product term, over and above the total R^2 of control variables and main effects from step 2.

5.5.5 Nesting or Non-Independence of Team Member Data

All data in this study were analysed at the individual level, because the study's primary aim was exploration of an individual-level team member measure alongside other measures using the individual team member as the referent of theoretical interest. However, to account for the non-independence of the data (individuals nested within teams), all lagged regressions, mediations, and moderations were repeated using SPSS multilevel regressions that modelled the team variance whilst testing the individual level regression models (Hofmann, Griffin, & Gavin, 2000; Kenny, Kashy, & Bolger 1998). The between groups variance component of these models was invariably non-significant, indicating that a significant majority of variance to be explained existed within groups at the individual level. These latter analyses did not dramatically alter the significance of any of the major findings, and so original ordinary least square (OLS) single level regression results are reported here.

5.6 Results
5.6.1 Descriptives and Correlations

Table 5.1 shows the means and standard deviations for all study variables at all time points measured.

Table 5.1 Means and SDs for all Study 1a Variables

Controls, Traits and Moderators	T1 M(SD)	PT Indicators and Team Member Outcomes	T2 M(SD)	T3 M(SD)
Age	34.9(5.24)	PT effort	4.10(0.59)	4.15(0.66)
Twk experience	4.06(0.72)	PT emp concern	4.11(0.77)	4.25(0.67)
Pref for twk	3.86(0.76)	PT pos attribtns	3.97(0.78)	3.99(0.84)
Trait PT	3.73(0.87)	Role clarity	4.09(0.61)	4.17(0.64)
Trait EC	3.73(0.80)	Helping	4.03(0.83)	4.12(0.82)
Self esteem	4.42(0.52)	Conflict mgment	4.17(0.89)	4.22(0.93)
Task interdependence	3.96(0.54)			

n = 227

Table 5.2 shows the intercorrelations between all the study variables. Trait perspective taking and trait empathic concern show some positive correlations with all team member perspective taking indicators. Teamwork experience and preference for teamworking show some positive correlations, but only with the perspective taking effort indicator. All of the team member perspective taking indicators show some positive correlations with task interdependence. However, none of the indicators show any positive correlations with dispositional self-esteem.

Hypotheses 1-3 are supported by the correlations in Table 5.2; all the team member perspective taking indicators at T2 show positive correlations with the team member outcomes at T3. Hypothesis 4 is also supported here; all of the reciprocal correlations between T2 team member outcomes and T3 team member perspective taking indicators are significant.

5.6.2 Lagged Regression Analyses

Before running any regression analyses, the data for the variables were checked to see that the following assumptions were met: linearity, normality in distributions of dependent variables, homoscedasticity, and lack of multicollinearity between predictors (Tabachnick & Fidell, 2001). These assumptions were checked in the data through

further examination of frequency distributions, skewness statistics, residual scatterplots, and correlation coefficients.

Univariate and multivariate outliers (with standardised residual of > +/- 2.5) were also typically discarded to preserve the power of the statistical analyses.

The lagged regression tables in the following analyses show the impact of variables entered separately at two steps– at the first step, the regression weights of the control variables and the lagged predictor (the outcome at the earlier time point (T2)), and the portion of variance in the outcome they explain (step 1 R^2); then at the second step the regression weights of the predictor variables of interest are added and the incremental portion of variance in the outcome they explain (step 1-step 2 ΔR^2). Table 5.3 shows the T3 team member outcomes regressed on the T2 team member perspective taking indicators. As can be seen in Table 5.3 hypotheses 1 is supported; team member empathic concern is positively related to team member role clarity. Hypothesis 2 is also supported; the team member positive attributions indicator is positively related to team member helping behaviour. Hypothesis 3 also supported; the positive attributions team member perspective taking indicator is significantly positively related to team member conflict management behaviour. As a block, the team member perspective taking indicators explain significant unique variance (4-5%) in all three team member outcomes, lending further support to hypotheses 1-3.

Table 5.2 Study 1b Variable Intercorrelations

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Age																				
2. Gender	.12																			
3. Twk exper T1	.02	-.05																		
4. Pref for twk T1	.16*	-.07	.05																	
5. Trait PT T1	.09	-.10	.16*	-.02																
6. Trait EC T1	.10	-.15*	.08	.16*	.35**															
7. Trait self-est T1	.07	.00	.15*	.13	.07	.09														
8. Task interdep T1	.08	-.02	-.01	.18**	.09	.04	.24**													
9. Pos attrib T2	.05	-.03	.04	.15*	.05	.09	-.04	.16*												
10. Emp con T2	.07	-.08	.04	.10	.14*	.14*	-.08	.14*	.63**											
11. PT effort T2	.12	-.09	.07	.14*	.16*	.11	.08	.14*	.52**	.60**										
12. Pos attrib T3	.07	.00	.09	.05	.18*	.20**	.05	.15*	.58**	.38**	.28**									
13. Emp con T3	.11	-.03	.13	.09	.19**	.24**	.11	.27**	.46**	.56**	.38**	.60**								
14. PT effort T3	.15*	-.02	.17*	.05	.23**	.23**	.10	.19**	.31**	.39**	.40**	.40**	.64**							
15. Role clar T2	.11	-.05	.08	.14*	.10	.03	.13	.21**	.34**	.28**	.38**	.24**	.26**	.29**						
16. Helping T2	.04	-.11	.18**	.13	.14*	.11	.05	.20**	.65**	.61**	.57**	.45**	.53**	.40**	.35**					
17. Con mgmt T2	.12	-.02	.07	.12	.14*	.09	.11	.08	.43**	.37**	.41**	.35**	.41**	.30**	.27**	.49**				
18. Role clar T3	.08	-.06	.10	.04	.12	.10	.15*	.19**	.27**	.31**	.28**	.33**	.39**	.42**	.46**	.38**	.28**			
19. Helping T3	.07	.04	.13	.14*	.15*	.11	.12	.32**	.43**	.42**	.35**	.61**	.67**	.44**	.30**	.56**	.40**	.43**		
20. Con mgmt T3	.18*	.05	.05	.04	.05	-.01	.13	.25**	.33**	.33**	.35**	.46**	.44**	.36**	.28**	.37**	.50**	.43**	.54**	

n = 227   * Correlation is significant at the 0.05 level (2-tailed).
          ** Correlation is significant at the 0.01 level (2-tailed).

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Table 5.3 Regressing T3 Team Member Outcomes on T2 Team Member Perspective Taking Indicators

	Role clarity (T3) Step 1	Role clarity (T3) Step 2	Helping (T3) Step 1	Helping (T3) Step 2	Conflict mgmnt (T3) Step 1	Conflict mgmnt (T3) Step 2
Age (T1)	0.05	0.05	0.01	0.01	0.09	0.09
Gender (T1)	-0.01	-0.01	0.12*	0.10†	0.05	0.06
Teamwork exp (T1)	0.05	0.05	0.01	0.01	0.04	0.04
Pref for teamwork (T1)	-0.05	-0.07	0.12*	0.06	0.01	-0.03
Trait PT (T1)	0.03	0.01	0.10†	0.06	0.02	0.01
Trait EC (T1)	0.03	0.02	0.02	0.02	-0.04	-0.04
Outcome (T2)	0.51**	0.44**	0.62**	0.46**	0.59**	0.47**
PT effort (T2)		0.02		0.06		0.10
Emp concern (T2)		0.18*		0.10		0.05
Positive Attributions (T2)		0.04		0.15*		0.15*
R^2	0.284**	0.328	0.456**	0.502	0.379**	0.430
ΔR^2		0.044**		0.046**		0.051**

n = 215-217   **p<0.01; *p<0.05; †p<0.10 (two-tailed)

Table 5.4 shows the T3 team member perspective taking indicators regressed on T2 team member outcomes, in an assessment of potential reverse causality. Hypothesis 4, which proposed reciprocal relationships, is supported. The reciprocal effects are largely driven by team member helping behaviour. As a block, the team member outcomes at T2 explain significant variance (3-6%) in all of the team member perspective taking indicators at T3 except positive attributions, supporting hypothesis 4.

Table 5.4 Regressing T3 Team Member Perspective Taking Indicators on T2 Team Member Outcomes (Reverse Causality)

	PT effort (T3) Step 1	PT effort (T3) Step 2	Emp concern (T3) Step 1	Emp concern (T3) Step 2	Pos Attributions (T3) Step 1	Pos Attributions (T3) Step 2
Age (T1)	0.04	0.05	0.06	0.07	0.01	0.01
Gender (T1)	0.04	0.06	-0.01	0.02	0.07	0.06
Teamwork exp (T1)	0.08	0.02	0.08	0.03	0.01	-0.02
Pref for teamwork (T1)	0.01	0.01	-0.01	-0.03	-0.03	-0.03
Trait PT (T1)	0.15*	0.13*	0.05	0.02	0.11*	0.09
Trait EC (T1)	0.05	0.05	0.10†	0.11†	0.06	0.06
Outcome (T2)	0.49**	0.48**	0.69**	0.51**	0.67**	0.61**
Role clarity (T2)		0.15*		0.02		0.03
Helping (T2)		0.24**		0.22**		0.14*
Conflict management (T2)		-0.01		0.02		-0.01
R^2	0.328**	0.388	0.531**	0.563	0.496**	0.508
ΔR^2		0.059**		0.032**		0.012

n = 215-217   **$p<0.01$; *$p<0.05$; †$p<0.10$ (two-tailed)

5.6.3 Latent Variable Causal Models of Team Member Perspective Taking Indicators Main Effects on Team Member Outcomes

To simultaneously test all possible causal links between perspective taking and outcomes at both time points, several series of nested, competing structural equation models were tested. These models were applied and interpreted against the two-variable, two-wave framework of the data available for this study (Williams & Podsakoff, 1989). It should also be reemphasised that, due to easily violated assumptions, lagged regressions often run the risk of under-estimating key predictor

weights, while over-estimating stability paths of the same variable's effects on itself over time. Thus, a structural model technique used here can reinforce, refine, and triangulate findings from the lagged regression analyses of this study, also accounting for measurement error.

The models were estimated using maximum likelihood, and an item variance-covariance matrix of the data (Kelloway, 1996). Change in model fit was assessed using $\Delta\chi^2/\Delta df$. Normed-fit index (NFI) was calculated by subtracting the χ^2 of the current model from the χ^2 of the null model, and dividing it by the χ^2 of the null model. In this way, ΔNFI could provide an estimate of how much available variance identified parameters were explaining in the model (Williams & Podsakoff, 1989). Full details of fit indices and tabulated nested models are included in the Appendix.

Overall fit indices were also consulted in conjunction with recommended cut-offs (Hu & Bentler, 1999). The t-values and significance of individual parameter estimates are the main statistics reported here (Hinkin, 1998).

In short, the sequence of nested models tested for each SEM consisted of four models, as shown in Table 5.5 below. Figure 5.3 shows the general form of Model A, where all possible two-wave, cross-lagged paths are estimated. Comparison of Models A and B provides an estimate of any reciprocal effect from the team member outcome at T2, whereas comparison of models B and C provides an estimate of the causal impact of each team member perspective taking indicator at T2. This sequence of models was run for each team member perspective taking indicator and each team member outcome in turn. All the variables in the model were measured at T2 and T3, and included simultaneously.

Table 5.5 Nested Structural Models for Testing Reciprocal Causal Effects with Team Member Perspective Taking Indicators (T2/T3) and Team Member Outcomes (T2/T3)

Model	Descriptive Label
A	Full or saturated model; perspective taking and reverse effects
B	No reverse causality; perspective taking effects only
C	No causality either direction; just variables effects on themselves
D	Null model – variables uncorrelated, no causal

Figure 5.3 Fully Saturated Structural Model of Two-Wave Cross-Lagged Relations Between Team Member Perspective Taking and Team Member Outcomes
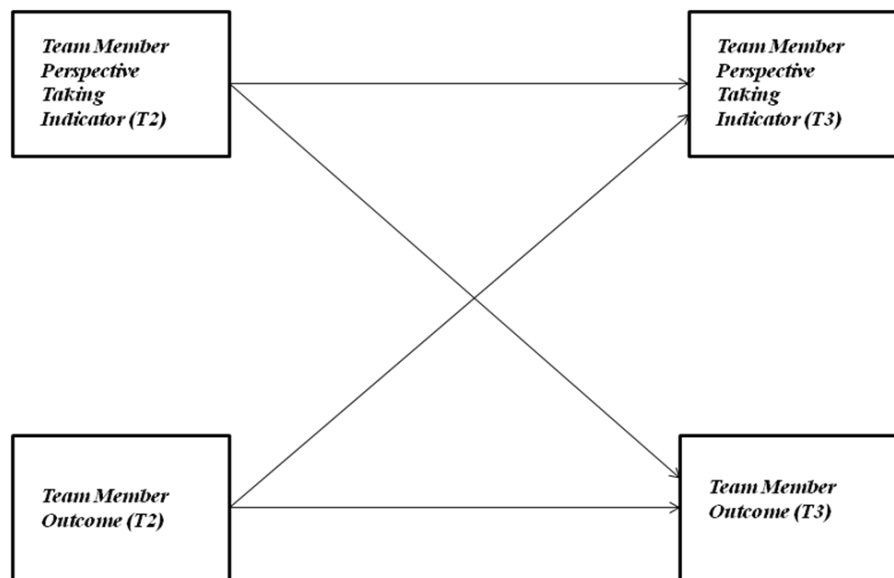
In terms of associations with team member role clarity at T3, the Model A parameter estimates (t-values) were as follows: T2 perspective taking effort (0.23, $p<0.01$), T2 empathic concern (0.29, $p<0.001$), and T2 positive attributions (0.14, $p=0.05$). Significant reciprocal paths were also found between T2 role clarity and T3 perspective taking effort (0.22, $p<0.01$) and T3 empathic concern (0.14, $p<0.05$). All significant paths led to a significant change in the Chi square of the overall model (>3.84 on 1df). The significant causal effects of the T2 team member perspective taking indicators lend further support to hypothesis 1. The significant reciprocal pathways lend causal support to hypothesis 4.

In terms of associations with T3 helping behaviour, in the Model A, none of the parameter estimates (t-value) for the three T2 perspective taking indicators were significant. Significant reciprocal paths were found between T2 helping and T3 perspective taking effort (0.38, $p<0.001$) and T3 empathic concern (0.47, $p<0.001$). All significant paths led to a significant change in the Chi square of the overall model (>3.84 on 1df). The strong reciprocal effects here causally support hypothesis 4, but team member perspective taking failed to significantly positively predict helping, and so hypothesis 2 was not supported in a causal sense.

In terms of associations with T3 conflict management the Model A parameter estimate (t-value) for T2 empathic concern was significant (0.14, $p<0.05$), and for T2 perspective taking effort at the $p<0.10$ level (0.11, $p=0.09$). Significant reciprocal paths

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were found between T2 conflict management and T3 perspective taking effort (0.25, p<0.01), T3 empathic concern (0.33, p<0.001), and T3 positive attributions (0.14, p<0.05). All these paths led to a significant change in the Chi square of the overall model (>3.84 on 1df). The causal effects of T2 perspective taking effort and T2 empathic concern provide causal support for hypothesis 3. The strong reciprocal effects add causal support for hypothesis 4.

5.6.4 Mediation Analyses

Mediations were assessed using hierarchical regressions and Sobel tests. Firstly, regression findings were examined to check that the basic requirements for mediation as laid out in the Baron and Kenny (1986) procedure were met: the predictor significantly relating to the outcome, the predictor significantly relating to the mediator, and the effect of the predictor on the outcome being significantly reduced whilst simultaneously entered into a regression model alongside the mediator, where the latter significantly predicts the outcome.

Given the many combinations of testable mediated models possible, only the ones that fit the theoretically expected pathways of trait perspective taking→team member perspective taking 'process' indicator→team member perspective taking 'results' indicators/team member outcomes were tested (hypotheses 5a and 5b; Figure 5.1). The two Tables below (5.6 and 5.7) show the significant paths involved and a Sobel test of the indirect effect path.

Tables 5.6 to 5.7 follow the Baron and Kenny (1986) in the regression models – the models test for a significant link between the independent variable and the mediator (the indirect effects; IV-M); then they test the link between the IV and DV or direct effect, and at the final step when the mediator is simultaneously included as a predictor (IV (+M) – DV). A reduction of the direct effect (ideally to non-significance) when the mediator is included indicates some potential mediation, and the Sobel test further examines the strength of that mediation, by gauging the reduction of the direct effect in terms of the proportion of the direct effect explained by the indirect effect.

5.6.4.1 Trait Perspective Taking, Team Member Perspective Taking Effort, and Team Member Outcomes (T1-T2-T3)

The analyses in Table 5.6 test the idea that distal effects of trait perspective taking on team member processes and behaviours were mediated by the more proximal

'process' team member perspective taking effort indicator (hypothesis 5a). As can be seen from the table, trait perspective taking at T1 was significantly related to the 'process' perspective taking effort indicator at T2. Furthermore, when perspective taking effort was included in the regression model alongside trait perspective taking, it caused the latter's relationship with team member outcomes to drop to non-significance. Sobel tests showed that the indirect effects were significant at the $p<0.05$ level. Thus, perspective taking effort significantly mediated the effects of trait perspective taking on all three team member outcomes. Overall then, hypothesis 5a is supported; the state 'process' indicator of perspective taking effort mediated the trait effects.

5.6.4.2 Trait Perspective Taking, Team Member Perspective Taking 'Process' Indicator, and Team Member Perspective Taking 'Results' Indicators (T1-T2-T3)

The analyses in Table 5.7 test the idea that distal effects of trait perspective taking on the positive attributions and empathic concern 'results' indicators of team member perspective taking are mediated by the 'process' indicator of team member perspective taking effort (hypothesis 5b). Note that the link between trait perspective taking and the 'process' indicator of team member perspective taking (IV-mediator) has already been tested in Table 4.6 in the preceding section, and so is not repeated here.

As can be seen from Table 5.7, when the perspective taking effort 'process' indicator at T2 was included in regression models simultaneously with trait perspective taking at T1, the latter's relationships with the positive attributions and empathic concern 'results' indicators of team member perspective taking at T3 became non-significant. Sobel tests showed that the indirect effects were significant at the $p<0.05$ level. The perspective taking effort indicator significantly mediated the effects of trait perspective taking on both positive attributions and empathic concern. Thus hypothesis 5b was supported.

Table 5.6 Mediation Between Trait Perspective Taking, Team Member Perspective Taking Effort, and Team Member Outcomes (T1-T2-T3)

	PT effort (T2) Step 1	PT effort (T2) Step 2	Role clar (T3) Step 1	Role clar (T3) Step 2	Role clar (T3) Step 2 (Mediated)	Help (T3) Step 1	Help (T3) Step 2	Help (T3) Step 2 (Mediated)	Con mgmt (T3) Step 1	Con mgmt (T3) Step 2	Con mgmt (T3) Step 2 (Mediated)
Age (T1)	0.11	0.09	0.10	0.07	0.06	0.10	0.06	-0.01	0.16*	0.15*	0.12†
Gend (T1)	-0.07	-0.05	-0.05	-0.04	-0.02	0.06	0.11	0.12†	0.07	0.08	0.09
Twk Exp (T1)	0.07	0.04	0.13†	0.11	0.11	0.10	0.13†	0.10	0.16*	0.14*	0.11†
Pref for twk (T1)	0.10	0.12†	-0.04	-0.02	-0.04	0.14*	0.13†	0.10	-0.01	0.01	-0.03
Trait EC (T1)	0.09	0.02	0.03	-0.02	0.01	0.12	0.10	0.03	0.02	-0.03	-0.03
Trait PT (T1)		0.18*		0.14*	0.01		0.15*	0.06		0.18*	0.06
PT effort (T2)					0.32**			0.51**			0.45**
R^2	0.051†	0.078	0.030	0.050	0.129	0.071*	0.090	0.326	0.059*	0.087	0.262
ΔR^2		0.027*		0.020*	0.099**		0.019*	0.255**		0.027*	0.203**
Sobel test (z)					2.22*			2.43*			2.39*

n = 210   **$p<0.01$; *$p<0.05$; †$p<0.10$ (two-tailed)

Table 5.7 Mediation Between Trait Perspective Taking, Team Member Perspective Taking 'Process' Indicator, and Team Member Perspective Taking 'Results' Indicators (T1-T2-T3)

	Pos attrib (T3) Step 1	Pos attrib (T3) Step 2	Pos attrib (T3) Step 2 (Mediated)	Emp con (T3) Step 1	Emp con (T3) Step 2	Emp con (T3) Step 2 (Mediated)
Age (T1)	0.06	0.04	0.01	0.09	0.11	0.06
Gender (T1)	0.07	0.09	0.11†	0.03	0.02	0.06
Teamwork Exp (T1)	0.09	0.08	0.06	0.12†	0.11†	0.10
Pref for twk (T1)	-0.02	-0.01	-0.03	0.01	0.02	-0.04
Trait EC (T1)	0.26**	0.21**	0.19**	0.23**	0.22**	0.20**
Trait PT (T1)		0.18**	0.07		0.18*	0.01
PT effort (T2)			0.38**			0.48**
R^2	0.083**	0.117	0.220	0.084**	0.116	0.319
ΔR^2		0.034**	0.137**		0.032*	0.235**
Sobel test (z)			2.32*			2.42*

n = 210   **$p<0.01$; *$p<0.05$; †$p<0.10$ (two-tailed)

5.6.5 Moderation Analyses

Moderations were assessed using hierarchical moderated regressions, simple slope tests, and example graphs to show the form of significant interactions. The range of the independent and moderator variables tended to cover the middle to higher end of scales, so that the low-high labelled graph lines are slight misnomers here, more accurately signifying 'moderate-very high'. The moderator means and standard deviations as reported in Table 5.1 provide some range information. All the regressions included the control variables at the first step, mean-centred main effects at the second step, and the product interaction term at the final step. The simple slope tests denote the relationship between the independent variable and the dependent variable for values of the moderator one standard deviation above or below the mean, as well as showing whether these slopes differ significantly from zero (or a flat line). It should also be

noted that wherever 'NA – not applicable' appears in a simple slopes area of a table, it means that given that the product term was non-significant in this case, simple slopes were not computed, as there is no interaction to be further explored.

5.6.5.1 Dispositional Self Esteem as a Moderator of Team Member Perspective Taking Indicator Effects on Team Member Outcomes (T1/T2-T3)

As can be seen in Tables 5.8-5.10 below, dispositional self-esteem significantly moderated the effects of team member perspective taking scales on all three team member outcomes. The form of these interactions was different to what was expected by hypothesis 6a, with those low in self-esteem exhibiting stronger relationships between team member perspective taking indicators and team member outcomes. However, there is potentially some restriction of range on the self esteem variable (mean 4.42, SD 0.52) meaning that even someone with designated 'low' self-esteem would still represent a score over the mid-point of the scale. It may well be that only when levels of self-esteem are considerably lower is it possible to see a negative or weakening of the perspective taking-outcome relationships via processes like defensive withdrawal, reduced self-other overlap, lowered confidence etc.

Nevertheless, those with relatively higher self-esteem benefit from increasing perspective taking less, perhaps because they are already confident about the nature of their interactions. It also can be interpreted as showing that increases in perspective taking indicators 'compensate' for those team members with lower self-esteem, rather than 'additively' building on higher self esteem, the latter being what was initially hypothesised. It should also be noted from the simple slopes tests that even at a relatively 'high' level of self-esteem, the team member perspective taking indicators still have significantly positive impacts on outcomes.

Figures 5.4-5.6 show an example interaction for each team member outcome and a different team member perspective taking indicator. Graphs of all these interactions are included in the Appendix, but as can be seen from the simple slope tests, they are all of a similar form/gradient. Thus hypothesis 6a is partially supported, but taking an unexpected form which is considered further in the discussion section of this chapter.

Figure 5.4 Example Interaction Graph for Self Esteem (T1) and Team Member Perspective Taking (T2) on Team Member Role Clarity (T3)

Figure 5.5 Example Interaction Graph for Self Esteem (T1) and Team Member Perspective Taking (T2) on Team Member Helping (T3)

Table 5.8 Moderated Regressions Involving Dispositional Self-Esteem (T1) Moderating the Effects of Team Member Perspective Taking (T2) on Team Member Role Clarity (T3)

	Role clarity (T3) Step 1	Role clarity (T3) Step 2	Role clarity (T3) Step 3	Role clarity (T3) Step 1	Role clarity (T3) Step 2	Role clarity (T3) Step 3	Role clarity (T3) Step 1	Role clarity (T3) Step 2	Role clarity (T3) Step 3
Age (T1)	0.08	0.07	0.06	0.08	0.07	0.06	0.08	0.04	0.05
Gender (T1)	-0.05	-0.07	-0.07	-0.05	-0.06	-0.06	-0.05	-0.04	-0.05
Teamwork Exp (T1)	0.09	0.06	0.05	0.09	0.06	0.05	0.09	0.07	0.07
Pref for teamwork (T1)	0.01	-0.05	-0.06	0.01	-0.05	-0.04	0.01	-0.04	-0.04
Trait PT (T1)	0.07	0.07	0.06	0.07	0.04	0.03	0.07	0.02	0.01
Trait EC (T1)	0.04	0.06	0.01	0.04	0.04	0.01	0.04	0.02	-0.02
Pos attrib (T2)		0.30**	0.33**						
Emp con (T2)					0.32**	0.35**			
PT effort (T2)								0.29**	0.31**
Self-esteem (T1)		0.14*	0.17*		0.13†	0.17*		0.09	0.10
Product term			-0.15*			-0.10			-0.16*
R^2	0.031	0.131	0.152	0.031	0.135	0.145	0.031	0.122	0.145
ΔR^2		0.100**	0.021*		0.104**	0.010		0.091**	0.022**
Simple slope 'high'			0.19*			NA			0.16†
Simple slope 'low'			0.48**			NA			0.47**

n = 210   **p<0.01; *p<0.05; †p<0.10 (two-tailed).

Table 5.9 Moderated Regressions Involving Dispositional Self-Esteem (T1) Moderating the Effects of Team Member Perspective Taking (T2) on Team Member Helping (T3)

	Helping (T3)	Helping (T3)	Helping (T3)	Helping (T3)	Helping (T3)	Helping (T3)	Helping (T3)	Helping (T3)	Helping (T3)
	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
Age (T1)	0.06	0.03	0.04	0.06	0.02	0.08	0.06	-0.01	0.05
Gender (T1)	0.07	0.11†	0.05	0.07	0.08	0.04	0.07	0.13†	0.05
Teamwork Exp (T1)	0.08	0.08	0.02	0.08	0.08	0.05	0.08	0.08	0.07
Pref for teamwork (T1)	0.16*	0.07	0.07	0.16*	0.11†	0.09	0.16*	0.12†	0.09
Trait PT (T1)	0.15*	0.12†	0.13*	0.15*	0.11	0.10	0.15*	0.09	0.08
Trait EC (T1)	0.03	0.05	0.03	0.03	0.05	0.03	0.03	0.07	-0.05
Pos attrib (T2)		0.48**	0.51**						
Emp con (T2)					0.45**	0.45**			
PT effort (T2)								0.42**	0.46**
Self-esteem (T1)		0.16*	0.22**		0.15*	0.18*		0.10	0.09
Product term			-0.25**			-0.25**			-0.28**
R^2	0.076*	0.313	0.367	0.076*	0.302	0.361	0.076*	0.275	0.347
ΔR^2		0.237**	0.053**		0.226**	0.058**		0.199**	0.072**
Simple slope 'high'			0.30**			0.25**			0.17*
Simple slope 'low'			0.76**			0.73**			0.74**

n = 210   **p<0.01; *p<0.05; †p<0.10 (two-tailed)

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Table 5.10 Moderated Regressions Involving Dispositional Self-Esteem (T1) Moderating the Effects of Team Member Perspective Taking (T2) on Team Member Conflict Management (T3)

	Conflict management (T3) Step 1	Conflict management (T3) Step 2	Conflict management (T3) Step 3	Conflict management (T3) Step 1	Conflict management (T3) Step 2	Conflict management (T3) Step 3	Conflict management (T3) Step 1	Conflict management (T3) Step 2	Conflict management (T3) Step 3
Age (T1)	0.13†	0.13†	0.11†	0.13†	0.13†	0.12†	0.13†	0.11	0.13*
Gender (T1)	0.09	0.06	0.06	0.09	0.07	0.05	0.09	0.08	0.07
Teamwork Exp (T1)	0.11	0.08	0.06	0.11	0.07	0.07	0.11	0.08	0.08
Pref for teamwork (T1)	0.04	-0.02	-0.07	0.04	-0.01	-0.02	0.04	-0.01	-0.02
Trait PT (T1)	0.12	0.13†	0.10	0.12	0.11	0.11	0.12	0.09	0.08
Trait EC (T1)	0.01	-0.05	-0.02	0.01	-0.04	-0.04	0.01	-0.03	-0.07
Pos attrib (T2)		0.45**	0.48**						
Emp con (T2)					0.40**	0.42**			
PT effort (T2)								0.34**	0.40**
Self-esteem (T1)		0.14*	0.18**		0.13*	0.19**		0.07	0.09
Product term			-0.20**			-0.17*			-0.23**
R^2	0.059†	0.264	0.301	0.059†	0.229	0.256	0.059†	0.185	0.232
ΔR^2		0.205**	0.037**		0.170**	0.027*		0.126**	0.047**
Simple slope 'high'			0.30**			0.26**			0.15
Simple slope 'low'			0.68**			0.59**			0.61**

n = 210   **p<0.01; *p<0.05; †p<0.10 (two-tailed)

Figure 5.6 Example Interaction Graph for Self Esteem (T1) and Team Member Perspective Taking (T2) on Team Member Conflict Management (T3)
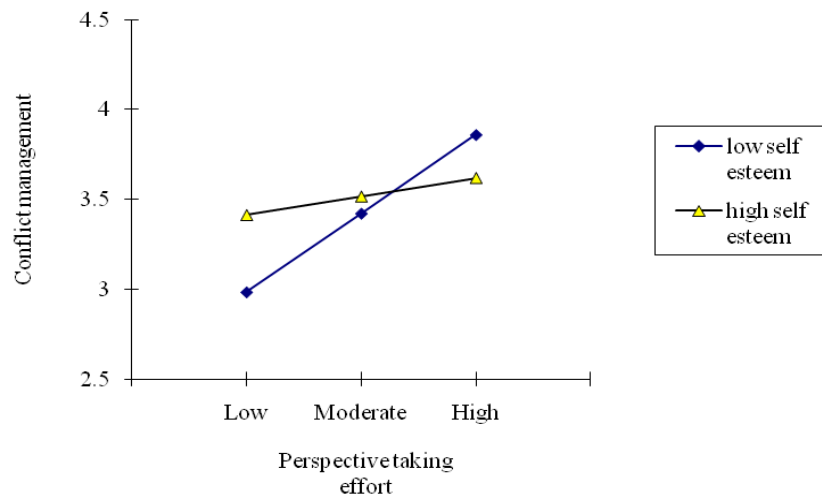
5.6.5.2 Task Interdependence as a Moderator of Team Member Perspective Taking Indicator Effects on Team Member Outcomes (T1/T2-T3)

As can be seen in Table 5.9 below, hypothesis 6b was partially supported in the same way as hypothesis 6a. The interactions are 'compensatory' rather than 'additive' - the positive slopes of relations with team member outcomes were significantly stronger for those team members perceiving lower task interdependence. As with high self-esteem, this may be partly because those perceiving higher task interdependence and being already correspondingly high on team member outcomes may have had little more to gain from increases on team member perspective taking indicators, already being confident concerning their interactions. This is an issue considered further in the discussion to this chapter. Also as with self-esteem, it may be that if samples/populations with much lower perceptions of interdependence can be assessed, they will show weaker or even negative perspective taking-outcome relationships from feelings of isolation, egocentrism, silo working etc.

One feature of these moderations is that those who perceive slightly lower task interdependence stand to gain more in their interactions from increases in perspective taking. The interdependence scores ranged from moderate to very high (mean 4.00, SD 0.52). It should also be noted from the simple slopes tests that even at a relatively 'high' level of task interdependence, the team member perspective taking indicators still

generally had significantly positive impacts on outcomes, except in this case for role clarity.

Figures 5.7-5.9 show an example interaction for each team member outcome and a different team member perspective taking indicator. Graphs of all these interactions are included in the Appendix, but as can be seen from the simple slope tests, they are all of a similar form/gradient.

Thus hypothesis 6b is partially supported, but taking an unexpected form which is considered further in the discussion section of this chapter.

Figure 5.7 Example Interaction Graph for Task Interdependence (T1) and Team Member Perspective Taking (T2) on Team Member Role Clarity (T3)
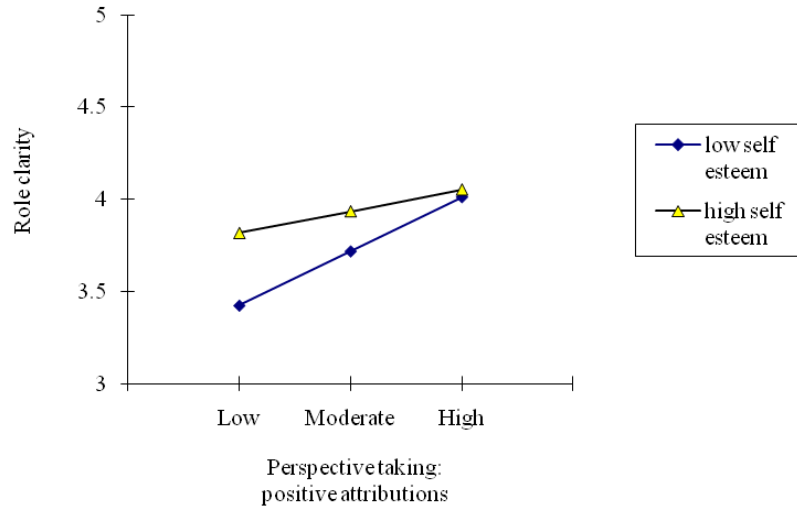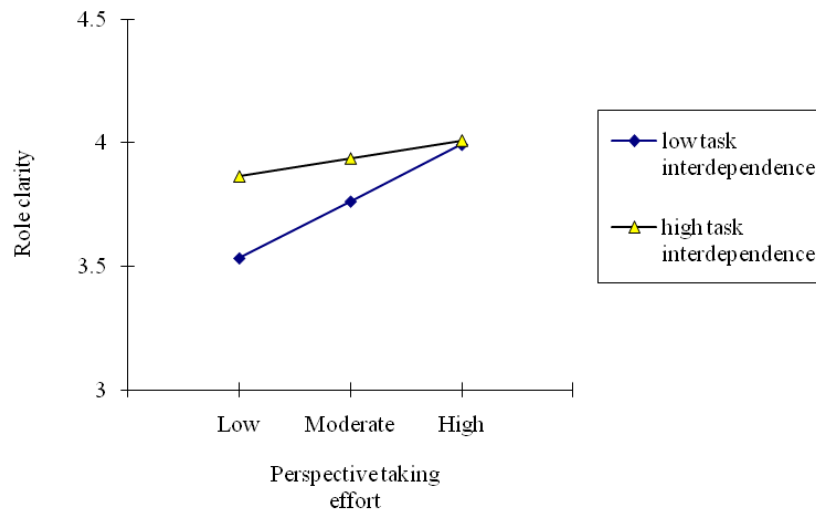

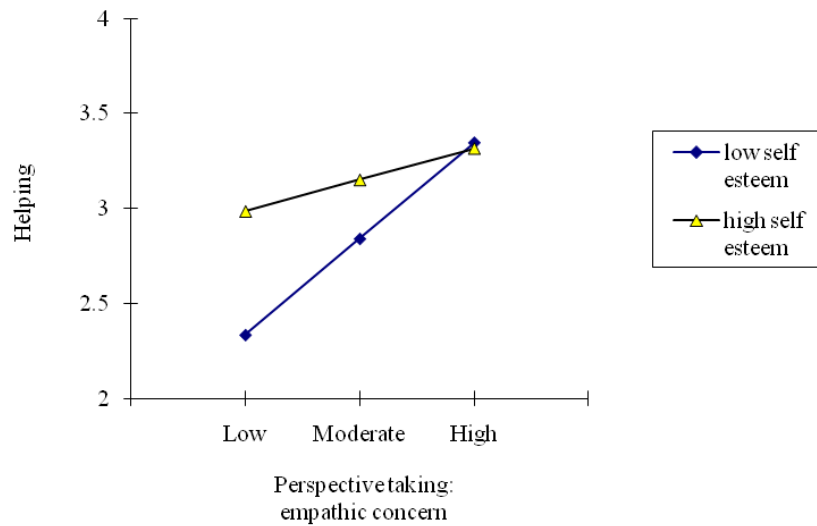Figure 5.8 Example Interaction Graph for Task Interdependence (T1) and Team Member Perspective Taking (T2) on Team Member Helping (T3)
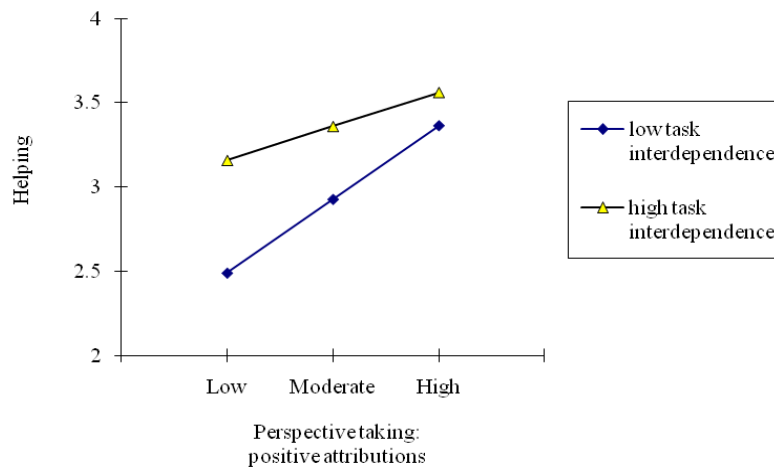
Table 5.11 Moderated Regressions Involving Perceived Task Interdependence (T1) Moderating the Effects of Team Member Perspective Taking (T2) on Team Member Role Clarity (T3)

	Role clarity (T3)	Role clarity (T3)	Role clarity (T3)	Role clarity (T3)	Role clarity (T3)	Role clarity (T3)	Role clarity (T3)	Role clarity (T3)	Role clarity (T3)
	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
Age (T1)	0.08	0.08	0.08	0.08	0.06	0.06	0.08	0.04	0.05
Gender (T1)	-0.05	-0.06	-0.06	-0.05	-0.05	-0.04	-0.05	-0.04	-0.03
Teamwork Exp (T1)	0.09	0.07	0.07	0.09	0.07	0.06	0.09	0.07	0.05
Pref for teamwork (T1)	0.01	-0.06	-0.06	0.01	-0.04	-0.03	0.01	-0.05	-0.05
Trait PT (T1)	0.07	0.07	0.07	0.07	0.05	0.06	0.07	0.03	0.03
Trait EC (T1)	0.04	0.06	0.06	0.04	0.03	0.01	0.04	0.03	0.02
Pos attrib (T2)		0.27**	0.24**						
Emp con (T2)					0.31**	0.28**			
PT effort (T2)								0.28**	0.26**
Task interdep (T1)		0.13†	0.13†		0.14*	0.15*		0.15*	0.15*
Product term			-0.01			-0.13†			-0.14*
R^2	0.031	0.128	0.129	0.031	0.147	0.162	0.031	0.133	0.152
ΔR^2		0.097**	0.001		0.116**	0.015†		0.102**	0.019*
Simple slope 'high'			NA			0.16			0.12
Simple slope 'low'			NA			0.43**			0.39**

n = 210   **p<0.01; *p<0.05; †p<0.10 (two-tailed).

Table 5.12 Moderated Regressions Involving Perceived Task Interdependence (T1) Moderating the Effects of Team Member Perspective Taking (T2) on Team Member Helping (T3)

|	Helping (T3)	Helping (T3)	Helping (T3)	Helping (T3)	Helping (T3)	Helping (T3)	Helping (T3)	Helping (T3)	Helping (T3)
	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
Age (T1)	0.06	0.03	0.06	0.06	0.01	-0.01	0.06	-0.01	0.01
Gender (T1)	0.07	0.09	0.06	0.07	0.07	0.06	0.07	0.10†	0.05
Teamwork Exp (T1)	0.08	0.09	0.07	0.08	0.07	0.04	0.08	0.08	0.06
Pref for teamwork (T1)	0.16*	0.04	0.05	0.16*	0.10	0.12†	0.16*	0.07	0.09
Trait PT (T1)	0.15*	0.11†	0.11	0.15*	0.09	0.06	0.15*	0.03	0.02
Trait EC (T1)	0.03	0.09	0.04	0.03	0.07	0.06	0.03	0.09	0.05
Pos attrib (T2)		0.47**	0.42**						
Emp con (T2)					0.45**	0.44**			
PT effort (T2)								0.47**	0.44**
Task interdep (T1)		0.28**	0.27**		0.27**	0.29**		0.27**	0.28**
Product term			-0.15*			-0.17**			-0.09
R^2	0.076*	0.394	0.415	0.076*	0.383	0.410	0.076*	0.369	0.378
ΔR^2		0.318**	0.020*		0.307**	0.027**		0.293**	0.008
Simple slope 'high'			0.29**			0.25**			NA
Simple slope 'low'			0.62**			0.61**			NA

n = 210   **p<0.01; *p<0.05; †p<0.10 (two-tailed)

Table 5.13 Moderated Regressions Involving Perceived Task Interdependence (T1) Moderating the Effects of Team Member Perspective Taking (T2) on Team Member Conflict Management (T3)

	Conflict management (T3) Step 1	Conflict management (T3) Step 2	Conflict management (T3) Step 3	Conflict management (T3) Step 1	Conflict management (T3) Step 2	Conflict management (T3) Step 3	Conflict management (T3) Step 1	Conflict management (T3) Step 2	Conflict management (T3) Step 3
Age (T1)	0.13†	0.10	0.10	0.13†	0.11	0.12†	0.13†	0.09	0.12†
Gender (T1)	0.09	0.09	0.09	0.09	0.09	0.11	0.09	0.12†	0.13*
Teamwork Exp (T1)	0.11	0.08	0.07	0.11	0.08	0.10	0.11	0.10	0.08
Pref for teamwork (T1)	0.04	-0.04	-0.04	0.04	-0.03	-0.03	0.04	-0.03	-0.05
Trait PT (T1)	0.12	0.08	0.09	0.12	0.07	0.08	0.12	0.07	0.01
Trait EC (T1)	0.01	-0.01	-0.03	0.01	-0.01	-0.02	0.01	0.01	-0.01
Pos attrib (T2)		0.44**	0.42**						
Emp con (T2)					0.37**	0.35**			
PT effort (T2)								0.45**	0.44**
Task interdep (T1)		0.16*	0.15*		0.16*	0.16*		0.17*	0.15*
Product term			-0.17**			-0.14*			-0.16*
R^2	0.059†	0.290	0.318	0.059†	0.239	0.258	0.059†	0.301	0.323
ΔR^2		0.231**	0.028**		0.180**	0.019*		0.242**	0.023*
Simple slope 'high'			0.22*			0.20†			0.29**
Simple slope 'low'			0.62**			0.50**			0.58**

n = 210   **p<0.01; *p<0.05; †p<0.10 (two-tailed)

Figure 5.9 Example Interaction Graph for Task Interdependence (T1) and Team Member Perspective Taking (T2) on Team Member Conflict Management (T3)
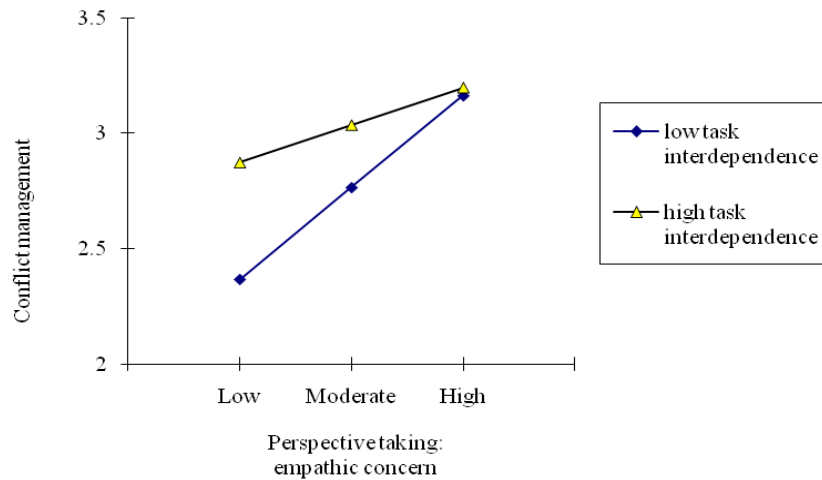

5.6.6 Summary of Findings and Hypotheses Supported

Most of the study's hypotheses were supported, although with some important qualifications and discussion. The hypotheses are revisited together here, to summarise the findings as a whole.

- Hypotheses 1-4 were all supported to some extent. Team member perspective taking indicators are positively related to the team member outcomes of role clarity, helping, and conflict management. Using lagged regressions and structural models to assess causal paths over time, there is some good initial evidence to show that team member perspective taking indicators can have potential causal effects on team member outcomes over time. In terms of hypothesis 4, the team member outcomes also showed reciprocal relationships with perspective taking.

- Hypothesis 5a was supported in that the perspective taking effort indicator mediated between trait perspective taking and team member outcomes. Hypothesis 5b was supported in showing that perspective taking effort as a 'process' indicator significantly mediated between trait perspective taking and the 'results' indicators of positive attributions and empathic concern.

- Hypotheses 6a and 6b were partially supported in that dispositional self-esteem and perceived task interdependence moderated almost all the team member perspective taking main effects on team member outcomes. However, the form of the interactions was unexpected. It was invariably the case that team members

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scoring lower on the moderator variable benefitted the most from associated increases in team member perspective taking (i.e. compensatory rather than additive). This compensatory effect of perspective taking was not hypothesised, and may be partly due to ceiling effects on the outcome and/or some restriction of range on the variables. On the other hand, it may capture the notion that those slightly lower on the relevant moderators stood to enhance their interactions more successfully via increases in perspective taking, and that those very high on the moderators were so confident and connected in their interactions that additional perspective taking may be superfluous.

5.7 Discussion

5.7.1 Team Member Perspective Taking Indicators and their General Effects on Team Member Outcomes

The team member perspective taking indicators display significant causal pathways over time driving team member outcomes. Team members vary in the effort they expend on understanding different views. Team members vary in showing emotional concern for the pressures of others. Finally, team members vary in the extent that they attribute the actions of others to a broader range of positive, more accommodating causes.

Although these skills are important for teamwork in general, they do have a special relevance for diverse team members as well. Arguably, an effective member of a diverse team needs to find an appropriate role contribution, manage contrasts and conflicts around them, and find ways of helping others to coordinate their efforts. The three outcomes all capture ways that team members can effectively adjust to difference.

The contribution of these main effects combined to research and practice is in linking a situational measure of team member perspective taking to a nomological network of cooperative constructs relevant to working in a diverse social system. This builds on recent theoretical reviews in professional and higher educational settings linking perspective taking to cooperative, trusting endeavours across diverse boundaries and in small groups (Johnson et al, 2007; Parker et al, 2008; Williams, 2007). The main effects also speak to a positive network of constructs that start to consider how individuals can attend to and validate the 'value in diversity' hypothesis. Traditionally in organisational research, this has been studied using social identity theory and self-

categorisation theory, often showing the top-down negatively biasing influences groups can have on their members' perceptions. In contrast, team member perspective taking is an example of a process that can build positively from the ground up, from personal recognition into more harmonious group ties (Huber & Lewis, 2010; Swann et al, 2004).

The indicators of team member perspective taking are worded in relatively general, abstract terms, but they also clearly provide impetus to research into workplace analogues. These include integrated practices such as job rotations, carefully set-up contact between diverse individuals, and symbolic electronic knowledge communication systems (Boland & Tenkasi, 1995; Campion et al, 1994; Pettigrew, 1998).

Dispositional self-esteem and perceived task interdependence moderate and qualify the relations between perspective taking and outcomes. Team members appear to need *either* higher perspective taking or perceived task interdependence to compensate for a lack of the other. One way or another, people need to link themselves into interactions with other team members; to see how interactions depend on passing work around others to get it done or seeing how their perspectives can become an integral part of that work and learning (Johnson et al, 2007). Dispositional self-esteem was a similar moderator in that if someone was low on self-esteem, increasing perspective taking appeared to provide them with the reassurance to view interactions more positively and behave more positively towards others. On the other hand, for team members high in self-esteem by nature, perspective taking increases were significantly less beneficial, perhaps due to them having sufficient confidence to frame interactions positively and engage in cooperative behaviour with less perspective taking being required.

The precise form of these interactions was partly unexpected, in that it was those lower on these variables that scored higher on outcomes from increasing their perspective taking, in a 'compensatory' type of interaction. What was hypothesised was that a perspective taker higher on the moderators would score higher on outcomes, in a more positive 'additive' interaction form. On the one hand, the interactions may indicate that promoting perspective taking is particularly beneficial or enlightening for individuals feeling slightly lower in self-esteem and/or unable to see how other team members' work is connected to their own. On the other hand, the mean scores on many of the moderators were highly positive and restricted in range, so there is a need to be

cautious in interpreting beyond what the data can lay claim to. It's also possible that those scoring high on moderators and outcomes experienced smaller gains from perspective taking due to ceiling effects on the outcome variable; they couldn't go any higher on the measures used. Alternatively, these team members may be genuinely confident about their team interactions, and feel that less perspective taking is needed to maintain and enact them. High self-esteem and a keen sense of interdependence may equate to enough satisfaction with interactive behaviours; such that increases in perspective taking are felt slightly unnecessary or add less. Yet another underlying explanation may be that those scoring very high on self-esteem and task interdependence are complacent about their interactions, and see perspective taking as relatively unnecessary with those they see frequently. The relation may be curvilinear, and optimal perspective takers may need to experience some intermediate doubt or uncertainty to prompt genuine gains in sensitively tailored prosocial behaviour without over-confidently assuming that they 'know what's best' in their interactions.

Whilst these findings have a good deal of external validity for many similar settings, this highlights an inevitable need for future research to disentangle these possibilities. This will involve researching different working populations where individuals show a wider range of isolation, inexperience, and self-esteem threat conditions that have thus far largely only been simulated in the laboratory or theorised about (Clair, Beatty, & Maclean, 2005; Galinsky & Ku, 2004). In organisational contexts, sampled individuals low on these moderators might include new recruits, minorities, outsiders/consultants, and remote or part-time workers. Research in wider populations can confirm and identify the full range of positive to negative experiences - from withdrawal and threat through to effortless success and/or complacency with diverse others.

In sum then, perspective taking often compensates for other relatively mild negative conditions, rather than having its effects strengthened by mutually reinforcing highs. Perspective taking appears to be particularly beneficial under conditions where team members face a challenge to connect themselves confidently and dependably to the social fabric of behaviour and coordination with other team members. However, over wider ranges and populations, there might be different 'additive' patterns also, showing that gains on these and similar moderators can support organisational behaviour jointly in combination with gains in perspective taking. For example, seeding teams with members having great diversity experience or a natural ability to empathise

may be crucial for leading to an inspirational turn-around amongst team members struggling to come to terms with the diversity of others.

The interactions also make a contribution in implying certain interventions that represent flexible analogues of these effects. For example, high frequency quality contact and diversity training can reduce the feelings of anxiety and threat to self-esteem arising from encountering diverse others, whilst promoting a sense of interdependence and belonging (Aberson & Haag, 2007; Pendry et al, 2007). These attributes can then potentially build and compile into higher-order team and organisational cohesion. For example, workgroups may have climates or organisations entire cultures based on a confidence and motivation to connect diverse others fairly and constructively into core task or work processes (Ely & Thomas, 2001; Kossek & Zonia, 1993). These attributes at different levels of analysis form a wider, moderating context around perspective taking that is considered further in the remainder of this thesis.

5.7.2 Reciprocal Effects of Team Member Outcomes on Perspective Taking

Another point for discussion is that the reciprocal main effects in the data are reasonably strong. These effects show that actions and other states can have potentially causal effects on subsequent perspective taking. For example, from the lagged and structural analyses, this was particularly the case for helping behaviours. Helping behaviour has been traditionally shown in the laboratory to be an outcome of perspective taking (e.g. Batson et al, 2007). However, in the current data, helping appeared to prompt greater perspective taking. The same was true in part also for role clarity and conflict management. These reciprocal relationships are worthy of further investigation.

In the context of team members, the reciprocal paths are consistent with recent, more dynamic models of teams or groups, where their behavioural outputs dynamically feed back into further inputs and processes (Ilgen et al, 2005). In the current sample, the second and third time points were positioned between the middle and end of the teams' life spans within the academic year. This may have been a particularly crucial period where team members are confident enough and pressured enough in the midst of tasks to 'act first, take perspectives later'. Mead (1934) used the example of speech to describe how speaking is typically an important first step before perspective taking, whereby our own gestures and words become symbols for us and other psychological actors to view and react to.

Perspective taking and perceptual/behavioural outcomes are often reciprocally linked in diverse workplaces (Boland & Tenkasi, 1995). The findings here contribute to research on team members interacting over time, and linking perspective taking to three significant organisational research paradigms or topics.

Firstly, perspective taking can be seen as a form of sensemaking, where team members act in relatively plausible ways towards diverse others, and the reception of those actions shapes subsequent cognition (Weick, 1995). Secondly, there is a suggestion here that perspective taking is linked to proactive work performance (Griffin, Neal, & Parker, 2007), and people need to take charge or act on some kind of initiative to engage and externalise viewpoints, concerns, disputes and ultimately solve interpersonal problems. Finally, there are the concepts of reflection and team reflexivity, both concerning how team members are motivated to think about their actions and process information about those actions (De Dreu, 2007; Demetriou & Wilson, 2008). This concept fits well here with the idea that reflection and reflexivity can prompt the bringing to consciousness of perspectives on actions, after those actions have occurred (Sonenshein, 2007).

In sum, reciprocal action-perception effects take on a special importance in the ongoing elicitation of diverse team perspectives. The empirical demonstration of such effects makes a contribution to team research by showing that team members can take prosocial actions like helping, reach positive states like role clarity, and then make time subsequently to reflect on the viewpoints surrounding those actions (Marks et al, 2001). It also links perspective taking to recently established research paradigms and conceptualisations of performance, sensemaking, reflexivity, and proactivity/adaptivity.

5.7.3 Team Member Perspective Taking Indicators and Specific Trait-State Sequences

As regards the mediations in this study, the purpose here was to understand key differences between trait and state perspective taking and between the perspective taking indicators. The weaker effects of trait perspective taking on team member outcomes were mediated by the stronger, more proximal situational 'process' of perspective taking effort. This further supports the criterion validity of measuring perspective taking in a dynamic fashion and relating it more meaningfully to in situ team member states and behaviours (Hinkin, 1998). Theoretically, this integrates team member perspective taking with a family of related social-cognitive constructs that show trait-state mediation (e.g. self-esteem, goal orientation, self-efficacy) (Heatherton

& Polivy, 1991; Payne et al, 2007; Chen et al, 2009). Assuming that team member perspective taking behaves at least somewhat similarly to related social-cognitive constructs, this strongly implicates positive relationships with forms of learning or performance, despite these concepts not all being specifically captured by the measures of this study.

The perspective taking effort indicator showed stronger relationships with trait and dispositional variables than did positive attributions and empathic concern, providing evidence for a sequencing between the indicators in the chain from a general disposition through to a core motivational 'process' and finally a malleable cognitive or affective 'result' or manifestation.

This also speaks to recent theoretical work arguing that perspective taking forms constituent chains of sub-goals, sub-processes, and results (Davis, 2005). It extends workplace and diversity research that treats and measures perspective taking as a stable individual difference (e.g. Galinsky et al, 2005; Rupp et al, 2008; Sessa, 1996). The findings inform research and practice by suggesting team member perspective taking attempts can be traced along components of a larger process, and that selection for individuals is not the only answer to promoting this social skill, but also development and intervention in particular situations can be possible and more pragmatic. Perspective taking effort to comprehend various differences in team member interactions appears to be an important motivational first step; an information gathering or framing conduit that paves the way for more demonstrative empathic responses and attributional explanations.

5.7.4 Practical Implications

The findings have three main implications for managers and those working in diverse teams. One is that perspective taking can potentially be trained more easily by paying attention to the specific situation and which forms might be desirable (Gehlbach, 2004). Perspective taking effort, given its more immediate mediating roles, would seem to be a good place to start, moving on to 'results' indicators more embedded in situations, like attributions or empathic concern. Research on adult development offers coaching-style exercises that mobilise efforts to learn wisdom and dialectical reasoning by reconciling opposing positions and arguments into harmonious, balanced higher-order solutions (Kegan, 1994; Sternberg, 1998).

If organisational and higher educational settings don't devote time to perspective taking training, it may hinder the way their whole organisation operates and the expertise of the people it attracts to work globally in its project teams (Ely & Thomas, 2001). The notion of training perspective taking is in its infancy, but laboratory paradigms from social psychology offer promising ideas, some of which are supported in the workplace. One of the challenges is that enlightenment takes time and sensitivity; people's natural defences and inhibitions need to be dismantled. Those slightly lower in self-esteem or isolating themselves from seeing how they can depend on others and be depended upon are particular targets for development and counselling to enhance how they interact with diverse others. Potentially also those who are unduly confident and complacent about their understanding of diversity and workflow may need to be encouraged to doubt or reflect upon their perceptions and actions periodically (Vorauer et al, 2009).

Possible training techniques include high-fidelity roleplay simulations, expressive writing or voice, high quality contact (e.g. encounter groups), symbolic cognitive mapping and stakeholder exercises (Boland & Tenkasi, 1995; Clore & Jeffery, 1972; Crocker, Niiya, & Mischkowski, 2008; Gehlbach et al, 2008; Grant, 2008; Hodgkinson et al, 1999).

The second practical implication has to do with dealing with individual and contextual moderators. Whilst organisations may wish to select employees who have high self-esteem, developing optimal levels of confidence and interdependence will also be important. Again, challenging training scenarios and setting up a constant flow of dynamic, small, diverse, interdependent groups with as few as 2-4 members will support perspective taking and relevant outcomes (Gehlbach et al, 2008; Johnson et al, 2007).

The third and final implication has to do with the reciprocal effects of behaviour and states on perspective taking. It may be the case, particularly with teams already established, that perspective taking requires regular bouts of proactive behaviour to trigger information and learning. Building on theories of sensemaking and self-perception, organisations need to take advantage of surprising, changing situations and symbolic acts to engage perspective taking (Weick, 1995). HR practices that reward creative, prosocial, proactive performances will prompt greater reflection and self-awareness (Griffin et al, 2007). An irony of perspective taking is that a fair amount of the time, one can't sit back and 'know' other viewpoints (Ickes, 2003), but has to

actively engage with a more pragmatic cycle of action and reflection (Fiske, 1992; Sonenshein, 2007).

5.7.5 Limitations and Future Research

The foremost strength of study 1b is that it drew on longitudinal data and a wide range of relevant teamworking variables. This study took the measure of study 1a and provided relatively rigorous, controlled tests of the reciprocal relations of team member perspective taking with team member outcomes over time. Future research can conduct external validation in other diverse, teamworking samples that have worked in more complex organisations over different periods of time. However, many of the MBA candidates had diverse organisational experiences of such work environments that they brought to the course, and were applying them to the complex project-based tasks at hand. On the other hand, the ranges of all the study variables, particularly revealing in the moderator analyses, tended towards positive, above-average values. Future research needs to probe boundary conditions such as self-esteem threat, interdependence types, and inexperience further in different contexts to fully understand how these factors can put limits on the effectiveness of teamwork interactions.

The findings converge with and build on existing organisational perspective taking research; positive attributions and empathic concern have already been studied in relation to customer service emotion work and cooperation between frontline employees and suppliers (Axtell et al, 2007; Parker & Axtell, 2001). This study helps begin to empirically establish some of the different paths/possibilities of perspective taking, which have not been studied much in applied settings, despite strong arguments and theoretical frameworks outlining such relationships (Gehlbach, 2004; Parker et al, 2008). Relations should be replicated to build a parsimonious foundation of evidence, then researchers can begin to test more sophisticated structural models of perspective taking in a more informed and confident manner (Kelloway, 1996). For example, the discriminant validity of paths between particular perspective taking indicators and particular behavioural outcomes could be tested, with some leads provided in the lagged regression analyses of this study. Empathic concern appeared to be a possible candidate for distinctively relating to the emotional security of role clarity, while other indicators may show other specific, differential associations.

Some of the empirical relationships could potentially have been affected by common method variance, given that all measures taken were based on team members'

self-reports. However, a good amount of procedural remedies are inherent in the study design that precludes this being a serious problem. Measurements were temporally separated, psychologically separated (the data wasn't primarily collected with a rationale obvious to respondents), and response anonymity guaranteed (Podsakoff , Mackenzie, Lee, & Podsakoff, 2003). Furthermore, the validity of the measures and their distinctive patterns of significant versus non-significant relationships make common method variance a relatively unlikely explanation for the findings (Spector, 2006). On a practical note, perspective taking and teamworking processes necessitate asking team members to report on relatively personalised, perceptual aspects of their work, so self-report is a justifiable method in that sense.

Nevertheless, third party ratings would introduce more rigour into understanding team member perspective taking. Perspective taking has been found by one study to relate to team leader ratings of contextual, cooperative behaviours (Parker & Axtell, 2001). Future research should aim to relate perspective taking variability to more objective measures of organisational performance and success. Whether or not supervisors or team leaders are able to agree accurately on team members' perspective taking levels is a significant research question in itself. Other informants are the diverse parties having each other's perspectives taken, necessitating dyadic methods (Ickes, 2003; Kenny, Kashy, & Cook, 2006).

The final point is that although this study drew on a wide array of relevant variables available in a large secondary dataset, there are other workplace construct associations suggested by theory on perspective taking. Team member differences may have their dark sides or ineffective sides, where team members manipulate, bully, or fail to account for others whilst trying to take their perspectives (Epley, 2008; Galinsky et al 2005; Galinsky et al 2008). This could involve taking more comprehensive measures of traits, diverse identities, and cognitive-affective indicators. This study does provide some useful leads into other in-depth areas of organisational psychology, helping to integrate perspective taking into well-established contemporary research paradigms for studying work behaviours (e.g. proactivity, positive psychology, workgroup diversity, team effectiveness).

5.7.6 The Next Chapter and Study

The next chapter introduces study 2, which takes the study of perspective taking to an entirely new level of analysis, by exploring its validity as a shared team-level

construct. The extensive set of secondary MBA data is explored again from this entirely new angle. Difference can exist between individual team members and affect their interactions with one another, but diversity is also a shared property of groups as a whole, a gestalt. Study 2 aims to show empirically that entire groups or teams can become aware of and be affected by their overall diverse compositions. At the team level, perspective taking can act as a type of mediating climate for understanding explaining how a team becomes aware of its own diversity, how to take confidence from it, and reflect on the perspectives that arise. Thus as well as conceptually placing perspective taking at a higher social aggregation, study 2 also seeks to show its role in relation to explicit measures of diversity and democratic team-level outcomes.

Chapter 6: Perspective Taking at the Team Level: Diversity and Positive Team Functioning

6.1 Chapter Overview and Aims

In this chapter I will:

- Investigate whether the indicators of team member perspective taking from studies 1a and 1b can be studied at the team level as *team perspective taking* indicators, where teams report a shared level of intra-team perspective taking.

- Investigate how team diversity relates to team outcomes via team perspective taking. First, I test the proposition that a team's multiple work experiences held within its members promotes beneficial team outcomes, whereas in contrast, a team's cultural diversity between members has negative effects on outcomes. Second, I investigate whether indicators of team perspective taking act as a key mediator or explanatory mechanism of these effects of diverse team attributes on team outcomes.

6.2 Study 2: Study Context and Overview

This study continues to use the three indicators of state team member perspective taking introduced and explored in studies 1a and 1b, but at the higher, team level of analysis. Thus these constructs will now be referred to as *team perspective taking* indicators to reflect the distinction. The value of this development is that, given the inherently social nature of perspective taking, we can begin to understand how it operates among interdependent configurations of individuals. Groups and teams can develop a shared approach to taking the perspective of team members. Social groupings as a whole will have their own socially constructed perspective taking norms that exist in parallel to the lower-order individual level interpersonal components in studies 1a and 1b.

This study aims to establish team perspective taking's mediating role in supporting other aspects of team process and functioning, as a continuation of some of the positive effects found in study 1b. A team that has members who are actively attempting to understand internal perspectives should experience outcomes of greater confidence in using its diversity, and greater ability to reflexively make changes as a result of its diversity. The study presented in this chapter looks at diversity and perspective taking in relation to these two team outcomes – team potency and team

reflexivity. Diverse teams higher on team perspective taking will put a constructive perceptual spin on their own diversity by trying to emphasise and favourably interpret overlapping, work-relevant aspects. Furthermore, I propose that this prosocial mindset of team perspective taking can explain where the positives of diversity are harnessed, whilst simultaneously explaining how the process losses arising from alternative, less constructive diversity perceptions can derail a group from its objectives.

Study 2 draws on the same survey data as studies 1a and 1b, collected at three time points in the executive year (EY or 'final year') 2002 of a postgraduate programme. However in this study I carry out the analyses at the team level. This study also looks at two team outcomes: team potency and team reflexivity, building on and extending the team member outcomes from study 1b. The constructs incorporated in this study also follow previous studies in that they are prosocial and diversity-relevant. The difference here is that the concepts reflect explicitly team-level processes that arise from democratic, positively inclusive teamworking. Study 2 captures to what degree entire teams are potent or confident about their ability to perform and are able to be reflexive about their own work processes.

This study also explicitly measures two different aspects of team diversity in two crucially different ways: multiple functional experiences within team members, and cultural or ethnic differences between team members. Intra-personal functional diversity is thus more overlapping, flexible, and work-related. Inter-personal cultural diversity is thus categorical, fixed, and less work-related. This allows the study to investigate how workgroup diversity captures how perspectives might be derived in the first place (Van Knippenberg & Schippers, 2006). In this study diversity is measured explicitly at the group level, with group-level indices computed for the two forms of diversity. This provides relatively objective data about the composition of the MBA teams as wholes, which can then be related to perspective taking and outcomes, all at the team level.

Although this study makes use of data from different time points, and measures diversity relatively objectively, stringent causal longitudinal analyses or structural modelling are precluded due to the reduced sample size at the team level (N = 47). However, the major strength and contribution of this study is in testing whether team perspective taking indicators can have validity at the team level, and act as intervening, mediating variables that help to explain to what extent teams harness value in their diversity, rather than being derailed by any negative side-effects or inefficiencies that might undermine its effectiveness (Pelled, 1996; Van Knippenberg & Schippers, 2007).

6.3 Theory Development and Hypotheses

In this study, I test a theoretical model proposing that the three team perspective taking indicators mediate the link between diverse team composition (in terms of singular cultures and multiple, overlapping areas of functional expertise) and the team outcomes of team potency and team reflexivity. Specifically, I propose that inter-personal cultural diversity has negative effects on team outcomes, whereas intra-personal functional diversity has positive effects on team outcomes. Additionally, I expect that these distinct effects of diversity type can be explained by their different effects on perspective taking. Thus, I test the proposition that inter-personal cultural diversity is associated with lower team perspective taking, whereas intra-personal functional diversity is associated with greater perspective taking. Finally, team perspective taking, or lack of, is expected to be positively associated with the team outcomes, and to partly explain how they are realised from the diversity of the teams.

These key relationships proposed for the study are outlined graphically in Figure 6.1. This figure shows the main classes or categories of study variables, as well as the sign and direction of key main effects. Figure 6.1 also shows how the three team perspective taking indicators mediate these main effects by acting as an intervening mechanism, their presence explaining positive effects and their relative lack/absence explaining negative effects.

Figure 6.1 Study 2: Key Relationships
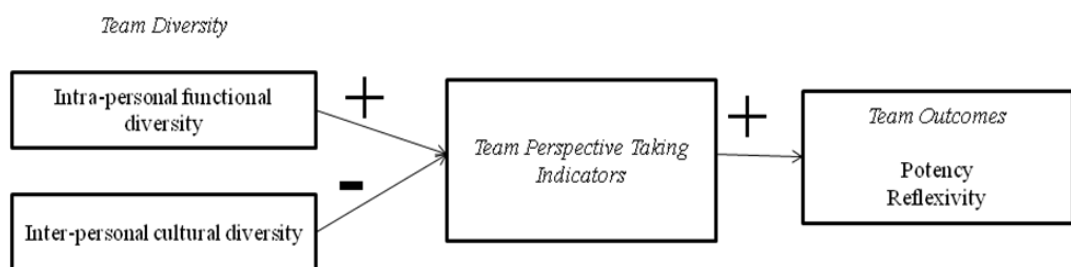
I next proceed to outline the study hypotheses more specifically, along with the theory and past research underlying them.

6.3.1 Team Perspective Taking

The first proposition tested in this study is that perspective taking exists at the team level. Groups or teams are being more explicitly recognised in organisational psychology as higher-order social and cognitive entities that learn and process information as a whole (Hinsz et al, 1997; Wilson, Goodman, & Cronin, 2007). A constructivist philosophy would further argue that perspectives are made through discourse and community, shaped by social context (Bruner, 1990). Just as perspectives are made jointly in social context, so they can be interpreted jointly within a social context. It is also plausible as a general argument that teams could set up variable perspective taking norms for reducing uncertainty that their diversity produces, to ensure their survival, and as a result of certain critical social events (Feldman, 1984).

Research and theory have shown that attributions can be shared via organisational relationships as people structure themselves within the social order, developing communication norms, expectations, and perceptions of situations and other groups (Barry & Crant, 2000; Silvester et al, 1999). Similarly, in terms of the empathic concern indicator, groups and even whole organisations can experience shared emotions or states of compassion that determine subsequent helping, cooperation, and coordination (Dutton et al, 2006; George & Brief, 1992). Just as groups can feel emotions by contagion, they can also develop their own emotional regulation norms and response history (Kelly & Barsade, 2001).

The evidence for perspective taking effort is less direct, given that it is the more immediate process indicator of perspective taking. However there is evidence that groups in organisations can exhibit a shared ability to understand the priorities and arguments stemming from relationships contained in whole departments or functions (Dougherty, 1992; Gittell, 2000). Teams develop a shared approach to perspective taking because they have an interdependent diversity and task structure that acts as a shared context constraining the structure and function of perspective taking interactions (Morgeson & Hofmann, 1999). Certain individual team member perspective taking acts will persist and become a code or routine for other members to model and take up. Diversity will indicate subgroups which will create shared perspective taking experiences within the team. Perspective taking will also converge across team members to the extent that it serves common team-level functions – in this case, shared prosocial, cooperative goals (e.g. to find value in diversity).

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With particular reference to diversity, groups and entire organisations can develop normative beliefs, climates and expectations about how to engage with diverse perspectives (Kossek & Zonia, 1993). An 'integration and learning' diversity orientation is conceptually similar to perspective taking, where diversity is seen as a resource for learning and adaptive change in work experiences and methods (Ely & Thomas, 2001). However, it has also been argued in phenomenological terms that perspective taking is an individual-level perception or strategy with implications for managing group-level diversity and team cooperation (Galinsky, 2002). I would argue that this seems unduly restrictive. Whilst it is possible for individuals to imagine the perspectives of others, this would logically seem to be a small component in a much larger process. Studies of complex team-based organisations have put forward constructs such as 'heedful interrelating', which draw support for the idea that a shared understanding of perspectives exists not simply in the heads of individuals, but along the boundaries between interdependent configurations of interlocking perspectives (e.g. diverse subgroups in teams) (Weick & Roberts, 1993).

There are a host of team level constructs that denote a shared social awareness within entire teams, their coordination, expertise, mental models etc (e.g. Gibson & Earley, 2007; Rico, Sánchez-Manzanares, Gil, & Gibson, 2007). Where team perspective taking differs is that it involves an active atmosphere of effort and imagination to attend to a wide range of dynamic personal aspects of the team members – emotions, dispute stances, preferences, and dispositional/situational causal factors. Alternative concepts – mental models, for example - focus on more impersonal, tangible aspects of information and knowledge structures. Team perspective taking has been defined theoretically as "insight into another person's life and situation or how other group members came to acquire their knowledge or preferences" (Huber & Lewis, 2010, p10).

Given these theoretical justifications for perspective taking as a potential team-level construct, the first hypothesis of this study is that team-level aggregation is empirically viable according to the data. Team perspective taking indicators should aggregate according to a 'direct consensus' composition model, that is, the team level construct depends on relative agreement between each component value of individual level perspective taking in the team (Chan, 1998b). According to multilevel measurement, a team level construct needs to show sufficient within-group agreement ($r_{wg}>0.70$), i.e. the degree to which the ratings from individuals in a group are

interchangeable (Bliese, 2000). A team level construct also needs to show sufficient reliability, i.e. the degree to which the individual group members' ratings are consistent in their proportions (Bliese, 2000). This involves demonstrating ICC1 and ICC2 values above zero. The ICC1 demonstrates that a proportion of the variability in the construct in question is due to group membership. The ICC2 shows that the groups can be reliably differentiated by their mean values on the construct.

- *Hypothesis 1: The situational perspective taking scales meet the established empirical criteria for group-level aggregation in terms of agreement and reliability*

6.3.2 Team Diversity and Team Outcomes

The major distinction drawn in the current study is between inter-personal cultural diversity and intra-personal functional diversity. Generally, cultural diversity is more fixed and immutable, and immediately detectable, whereas functional diversity necessitates probing and is potentially more flexible and task-related. In a review of 63 studies on workgroup and organisational diversity from 1997-2002, direct relations with performance were very mixed, but race/culture diversity tended to show consistently negative relations with performance, whereas functional diversity tended to show consistently positive relations with performance (Jackson et al, 2003). This was again corroborated by a larger review of research from 1992-2009 that showed negative effects of demographic diversity and positive effects of job-related diversity on performance, although in general these direct effects were quite weak (Joshi & Roh, 2009).

Functional diversity (i.e. forms of departmental/specialised technical experiences) is one of the more well-researched diversity dimensions. Functional expertise may be one of the only diversity dimensions that can directly improve team task performance, because of its undisputed relevance to the work at hand (Pelled et al, 1999). It has been shown to have a positive relationship with team performance when measured 'intra-personally' as the aggregated 'breadth' of multiple functional perspectives each team member (Bunderson & Sutcliffe, 2002). I measure it in the current study according to the 'breadth' of functional experiences/expertise each team member has, averaged across the team as a whole – the *intrapersonal functional diversity* of the team.

This 'breadth' of expertise is what promotes information sharing and ultimately better team performances (Bunderson & Sutcliffe, 2002; Pelled et al., 1999). Teams with members that have spanned multiple functional areas don't stereotype or pigeonhole others according to a single source, and this allows for a sharing of complex, task-relevant information. The information is diverse, allowing for innovation and creative improvements to team functioning, but at the same time the team has multiple, loosely overlapping backgrounds (Cronin & Weingart, 2007; Roccas & Brewer, 2002). In short, teams composed in this way have some common background of task perspective (they are not totally mutually exclusive, isolated 'experts') but also some useful distinctive 'gaps' that if shared, can transform a team's understanding and performance of its work through different innovative solutions (Cronin & Weingart, 2007; Stasser et al, 2000).

On the other hand, ethnic or racial diversity has tended to split organisational teams down the middle, inhibiting group functioning except where a deeper, shared team culture has been created over time (Earley & Mosakowski, 2000). Unlike intrapersonal functional diversity, inter-personal cultural difference is more likely to be immediately visible, salient, and less subject to flexible re-framing. It is more likely to create 'us-them' splits and 'faultlines' that cut categorically across the group on this basis, damaging its functioning and ability to pool its diversity to reach shared goals (Lau & Murnighan, 1998).

In terms of social identity theory and self-categorisation theory (Ashforth & Mael, 1989), inter-personal cultural diversity captures perceptions of mutually exclusive (either-or) categories of group membership within a team. This in turn will contribute to producing biased, stereotypical perceptions within the team, and less harmonious social interactions.

Workgroup diversity research has long suggested mixed effects over whether different diverse subgroups in a team become biased and negatively discriminating towards one another, or in fact become more open to sharing and elaborating on each other's perspectives (van Knippenberg et al, 2004). The main argument investigated here is that not all forms of diversity act on group dynamics in the same way, or are indeed perceived in the same way or to the same degree of salience.

The positive team outcomes examined in this study were team potency/efficacy, and team reflexivity (Guzzo, Yost, Campbell, & Shea, 1993; Carter & West, 1998). *Potency* is a group-level analogue of self-efficacy; it is a public, collectively shared

belief that a group can be effective (Guzzo et al, 1993). This confidence is particularly important for autonomous teams; for empowering them to feel satisfied, committed to their goals, and to go on to achieve higher task performances (Kirkman & Rosen, 1999). Team *reflexivity* is the extent to which a team reflects upon and modifies its functioning in response to its environment. This includes improving team performance via innovative objectives, strategies, and processes (West, Garrod, & Carletta, 1997).

These outcomes were chosen because they bear specific relation to the extent to which a team is able to leverage and find value and quality within its own diversity. They also have established roles in determining team effectiveness more generally (Kozlowski & Ilgen, 2006). Potency indicates a constructive belief in possible levels of coordination for the team; the extent to which diversity is linked to core goals, learning and achievements (Ely & Thomas, 2001). Reflexivity is relevant to this study in the sense that it captures the actual negotiations of inputs from diversity to inform changes and innovations to the team's working processes (De Dreu, 2002).

In terms of reflexivity, organisational research has shown that diverse subgroups within a team can stimulate group learning (Gibson & Vermeulen, 2003). For diverse teams working on complex tasks, their diversity is part of their own internal (and potentially external) environment, and this should by its very nature stimulate some reflexive attention of the group to its strategies, objectives, and processes (Carter & West, 1998; Schippers et al, 2003). Diversity by its mere presence can create a healthy controversy and questioning over how to approach tasks and problems (Tjosvold & Johnson, 1977).

On the other hand, I make opposing predictions for inter-personal cultural and intra-personal functional diversity. Research tends to find that the more categorical and less job-related the diversity, the less it will energise teams and lead to constructive debates and high-quality decision-making (Simons et al, 1999). Diversity can have a mixed range of affective and communicative effects, but discriminating, inter-personal differences tend to produce negative effects, due to process losses (e.g. conflicts or errors), inefficient coordination, and category-based stereotyping within a team (Milliken & Martins, 1996). Performance, social integration, and effective team process show more positive relationships with intra-personal functional diversity because it tends to be more overlapping and task-related, whereas inter-personal cultural differences can produce divisive feelings of dissimilarity or unattractiveness that undermine team cohesion (Horwitz & Horwitz, 2007). Different cultural norms, values

and language difficulties all stand to significantly impair patterns of communication and cooperation, which will in turn negatively impact on potency and reflexivity (Lester, Meglino, & Korsgaard, 2002). Inter-personal cultural differences will seem unassailable or difficult to get past, and so it is likely to undermine potency beliefs. It will also be unclear how inter-personal cultural distinctions provide constructive fuel for reflexivity; particularly when they are largely seen as sharply discriminating categories or labels.

Intra-personal functional diversity - for example multi-skilled, overlapping experts on a team - leads to more effective integration of information, confident collaborations, and reflexive problem-solving (Woolley et al, 2008). Teams with task-relevant, intra-personal forms of diversity working interdependently to unpack those differences are thus likely to see and comprehend the value of such diversity, in the flexible overlaps of common ground and the beneficial gaps of distinctively work-relevant information. They will experience a general potency or belief in the ability to work continually together and use information reflexively to negotiate improved performances (Bunderson & Sutcliffe, 2002; Guzzo et al, 1993; Stasser et al, 2000).

- *Hypothesis 2a: A team's inter-personal cultural background diversity is negatively related to its potency and reflexivity*
- *Hypothesis 2b: A team's intra-personal functional background diversity is positively related to its potency and reflexivity*

6.3.3 Team Perspective Taking Mediating Team Diversity Effects

My final argument for this study is that team perspective taking indicators are a key intervening mechanism for explaining how a group's diversity translates positively or negatively into varying levels of effective functioning.

Recent research on diversity has called for more insight into what might explain its various effects – the benefits of accessing diverse valuable information versus the harmful biased rivalry of social categorisation within a team (Van Knippenberg & Schippers, 2006). Constructs like team perspective taking shed some light on these inconsistencies by explaining in part how/why these positive and negative team processes occur as a result of diversity (Huber & Lewis, 2010). I propose that the indicators of team perspective taking in this study will capture harmonious coordination and an avoidance of negatively biased perceptions or focus on irrelevant, unduly stereotypical perceptions (Galinsky et al, 2005).

This search for more work on the diversity process has often been described as figuring out why it acts as a double-edged sword, or opening the 'black box' of workgroup diversity processes (Lawrence, 1997; Milliken & Martins, 1996). Mediators have been explored to an extent, such as how much teams share information concerning their diversity, or how much the team elaborates on relevant information to transform it into creative solutions (Bunderson & Sutcliffe, 2002; Homan et al, 2007). Perspective taking indicators offer great potential for building on this work, filling in gaps in understanding about how diverse perspectives are directly managed in a team to ensure superior task performances (Van Knippenberg & Schippers, 2006). Instead of individual differences that need to be selected for, or environmental conditions that can be costly and difficult to change, perspective taking indicators capture relatively flexible, trainable social norms for diversity management.

Placing team perspective taking in this intervening mediating role involves proposing two steps of relationships. Firstly, that inter-personal and intra-personal diversity are negatively and positively associated with team perspective taking, respectively. I argue inter-personal cultural diversity will motivate less perspective taking amongst team members – it will seem more irrelevant to the work, more rooted in mutually exclusive, either-or categories and more prone to stereotyping and misunderstandings (e.g. language barriers, long-standing traditions and values) (Earley & Mosakowski, 2000; Jehn et al, 1999). In contrast, intra-personal functional diversity will motivate more perspective taking from the team – it will seem more directly relevant to the work, more rooted in flexible categories that can cut across one another or constructively overlap, and more amenable to innovative information sharing (Bunderson & Sutcliffe, 2002; Gibson & Vermeulen, 2003; Van Knippenberg & Schippers, 2006).

Team diversity creates a shared structure and relation to team functions that collectively shapes how much shared team perspective taking can occur. High inter-personal cultural diversity is likely to demotivate perspective taking amongst team members due to increased difficulties like language barriers, a larger sense of dissimilarity, and accessible category stereotypes (Epley et al, 2004; Galinsky et al, 2008; Preston & de Waal, 2002). High intra-personal functional diversity is likely to motivate perspective taking amongst team members due to relative ease in finding overlap across categories, a greater likelihood of some similarity, and other potential processes like smoother delegation and an engagement with learning task-relevant

strengths and weaknesses (Oosterhof , Van der Vegt, Van de Vliert, & Sanders, 2009; Swann et al, 2004).

 The second step is to propose that higher team perspective taking will in turn be positively associated with higher team potency and reflexivity. A higher other-orientation affects the amount of weighted attention a team will give amongst all its members – accepting their feedback, suspending self-interested motives, showing concern for problems, and rejecting rigid but popular courses of action that might be failing (Meglino & Korsgaard, 2004). Perspective taking can allow legitimacy to deeper, invisible identities, allowing people to surface their perspectives rather than resentfully concealing them from flagging confidence (Clair et al, 2005). Conversations and communication will be kept ultimately focused on common ground, clarifying speakers' meanings and relevance, particularly important for diverse and contrasting views, which stem from divergent interpretations (Holtgraves, 2005). Perspective taking also involves conforming to appropriate elements of task design like cooperative outcome interdependence, understanding the need to involve people to achieve rewards jointly for beneficial diversity effects on team outcomes to be realised (De Dreu, 2007; Johnson et al, 2007). Team members who feel they need to depend on each other to discuss and air perspectives are less likely to knock back those perspectives through stereotyping, hostility or misuse of their diversity.

Paraphrasing important communications and rotating or reversing roles are typical group processes that embody high levels of perspective taking effort (Stephan & Finlay, 1999), and logically these exercises will broaden the confidence and reflexivity of the team. Perspective taking taps and encourages a group's motivation to seek out and close its diverse information gaps, to learn and change over time (Cronin & Weingart, 2007).

To summarise, I argue that diverse inter-personal cultural and intra-personal functional team attributes constitute an initial map of perspectives that collectively shapes levels of perspective taking among team members. Intra-personal functional diversity is more flexible and overlapping, engaging team perspective taking more and inter-personal cultural diversity more rigidly categorical and less easily shared, relating to reduced levels of team perspective taking. These patterns of diversity thus relate to team perspective taking, which acts as the intervening, mediating mechanism capturing motivated attention towards meaningful differences that can be accommodated by the team. This mediating mechanism of team perspective taking indicators partly explains

how the initial diverse composition translates into higher team outcomes of potency and reflexivity. Team perspective taking constitutes attention to the team differences that can be reasonably understood and shaped to provide innovative solutions, helping to raise the team's confidence and provide it with fuel for reflexivity and adaptive functioning. Based on these arguments, I propose:

- *Hypothesis 3: Team perspective taking mediates the effects of team diversity on team outcomes*

6.4 Method

6.4.1 Sample and Data Collection

The 2002 sample used was the same as that described in the method sections for study 1a and study 1b, except the 227 individuals were aggregated to form a final sample of 47 teams.

Given the reduced sample size that comes with aggregating to the team level, there comes reduced power of the analyses. A power analysis was conducted using the knowledge that I was interested in detecting medium-large effect sizes (R^2=0.30/ f^2 = 0.43), using approximately five predictors, with a conventional desired power level of 0.80 (DanielSoper.com Statistics Calculators Version 2.0). I relaxed the alpha significance level to 0.10 given that most of the hypotheses were theoretically very evidently directional (one-tailed), and this would therefore appropriately provide more power for detecting effects and avoiding type 2 errors. The power calculation yielded a minimum required sample size of 30, and given that after clearing out missing data the sample size was 47, the power was adequate for the purposes of the study.

Given the current theoretical purposes and lack of relevant repeated measures at time 2, control measures and team diversity indices were selected as measured at the first time point, team perspective taking at the second, with team outcomes at the second and third, as shown in the study design and measurement outline in Figure 6.2. As in studies 1a and 1b: T1 describes measures taken in the first week of a 38-week academic year, where T2 and T3 describe measures taken in weeks 18-20 and 28-30, respectively.

The general flow of causality underlying Figure 6.2 is from team diversity and control measures through to team perspective taking, and then ultimately to team outcomes, as expressed by the form of the study hypotheses.

Team size and the mean prior teamworking experience of the team were included as control variables. This was primarily because of their potential relationships to perspective taking and group information processing, as suggested by previous research. Cognitive load has been shown to interfere with perspective taking performances for giving tailored communications instructions about a detailed task (Roβnagel, 2000). I reason that the more members there are in a team, the more cognitive load their perspectives and/or diversity might create for team perspective taking, and team outcomes. Team size has been shown to affect conflict levels and interaction norms in various types of diverse organisational teams (Amason & Sapienza, 1997; Cohen & Bailey, 1997).

As regards teamworking experience in a team, the more relevant life experiences team members have had will contribute to clearer expectations about the demands that perspective taking can entail (Kegan, 1994). Multicultural teamworking experiences can partly promote appropriate perspective taking efforts and innovative, inclusive group processes (Leung, Maddux, Galinsky, & Chiu, 2008). Similar prior experiences also promote empathy and perspective taking to an extent (Batson et al, 1996).

The MBA working groups were allocated non-randomly to meet an approximate criterion of being reasonably diverse, although there was nothing explicitly systematic about this allocation. Most teams contained some mix on gender; members with ages in their 20s, 30s, and 40s; some members with pre-degree and post-degree educational qualifications; some members from different continents and cultures (the dominant cultural background was Australasian, as the MBA course was based in Australia). Finally most members had a range of functional background experiences. This was assessed intra-person (i.e. allowing for multiple sources of expertise within each person) and aggregated (Bunderson & Sutcliffe, 2002). Most team members on average had more than one 'expertise perspective' to draw upon from a range of industries, including law, marketing, and accounting. This meant that teams had overlap in their functional backgrounds and that on average many members were cutting across more than one category of expertise.

Figure 6.2 Study 2: Measurement Design with Time Points for Study Variables
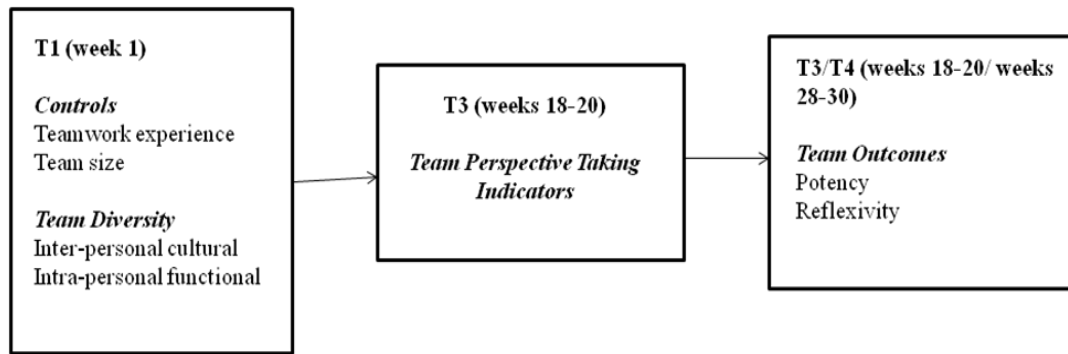
6.4.2 Measures and Exploratory Factor Analyses

The sample size was too small and the number of variables likely too large in terms of the degrees of freedom to suitably carry out a CFA (Bentler & Chou, 1987). The blocks of main study self-report variable items concerning perspective taking and outcomes in Figure 6.2 were subjected to exploratory factor analyses at each time point at the team level to assess the suitability of combining items to form distinguishable scales. The factors were extracted using principal axis factoring (PAF), and an oblique rotation allowing the factors to correlate (Hinkin, 1998). Scree plots, Eigenvalues greater than or close to one, and pattern matrices were consulted to make decisions on final item inclusion. Items were generally considered to satisfactorily represent their scale if: they had factor loadings greater than 0.4 on the intended constructs and no cross-loadings greater than 0.4 on other distinct constructs (Hinkin, 1998). Most scales were three to five item versions of well-established measures, with the exception of team perspective taking indicators.

Unless otherwise stated, all scales used five point Likert response formats with the anchors 'Strongly Agree' and 'Strongly Disagree'. The basic characteristics of the study measures are as follows.

6.4.2.1 Controls (T1)

Teamworking experience was the same scale used in Study 1b. That is, a four item scale asking generic questions about how much previous experience team members had with leading teams, and being on functionally, educationally, or culturally diverse teams. The scale had satisfactory Cronbach's alpha reliability ($\alpha =0.74$). The response anchors were 'Never' and 'A lot'. It had factor analysed successfully in study 1b, and so was not re-analysed here.

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As described in study 1b, the teams ranged in size from 3 members up to 7 members.

6.4.2.2 Diversity Variables (T1)

Inter-personal cultural diversity was measured as mutually exclusive categories and the diverse composition of each team on this diversity dimension was calculated using Blau's (1977) formula:

$$1 - \quad p^2{}_k$$

Where k is each particular category within a type of diversity, and p is the proportion of group members in that category. The index takes a value between 0 and 1 with higher values indicating a greater diversity. These forms of diversity were measured using Blau's categorical index because I judged it most appropriate to conceptualise diversity as 'variety' rather than 'separation' or 'disparity' (Harrison & Klein, 2007). Variety denotes a theoretical conception of diversity as a relatively even spread of relevant differences in kind, rather than disparity or separation, which connote sharper, more specifically skewed forms of diverse distributions of attitudes and resources. Blau's (1977) index is the most appropriate measure of variety diversity.

Secondly, a team's intra-personal functional diversity was computed; the aggregate or group mean of functional breadth in multiple domains within team members. This has been found to be more positively related to performance and critical to team information sharing than *dominant function diversity*; the diversity of mutually exclusive experts on a team, which is actually negatively related to team effectiveness (Bunderson & Sutcliffe, 2002). The latter is more like inter-personal diversity where team members might be labelled/categorised as being experts in one area only.

Thus intra-personal functional diversity literally measures how many varying, relevant functional perspectives were residing, on average, within the background of a typical team member. The functional expertise items were 'yes/no' items asking about 12 areas of expertise (one option was an open-ended 'other' option) and I summed the number of 'yes' responses for each member, and then averaged the sum across each team member to get a team-level value.

6.4.2.3 Team perspective taking indicators (T2).

Via the exploratory team-level factor analysis, the expected three-factor solution was yielded at T2, with all items loading consistently onto their respective factors,

without strong cross-loadings, and Eigenvalues greater than 1. Together the factors explained 85% of the item variance. Perspective taking effort showed satisfactory reliability ($\alpha = 0.92$), as did empathic concern ($\alpha = 0.93$), and positive attributions ($\alpha = 0.93$). Full information on the item numbers and wordings of these three scales is given in Chapter 4, study 1a.

6.4.2.4 Team Outcomes (T2/T3)

Team potency and team reflexivity were factor analysed together at the team level to show that they could be meaningfully differentiated as team outcomes. The potency items were taken from a previously established measure in this area (Guzzo et al, 1993). The response anchors ranged across 5 points from 1 'to no extent' through to 5 'to a great extent'. The three reflexivity items were also derived from previously established measures in this area (Schippers, den Hartog, & Koopman, 2007; Swift & West, 1998). The three items for each team outcome were the ones identified as having the highest factor loadings in pilot work done previously on this dataset, allowing the measures to be included in surveys but also taking up less space and time to complete.

The expected two-factor solution emerged at both time points, with items loading strongly on the appropriate factors, without strong cross-loadings, and Eigenvalues greater than 1.

The three item team potency scale showed satisfactory reliability at T2 and T3 ($\alpha = 0.89$; 0.81). The team potency items used were 'my team expects to be known as a high-performing team ', 'my team believes it can be very productive and 'my team has confidence in itself'.

The three item team reflexivity scale showed satisfactory reliability at T2 and T3 ($\alpha = 0.89$; 0.89). The team reflexivity items used were 'in this team, someone always makes sure that we stop to reflect on the team's work processes', 'we regularly take time to figure out ways to improve our team's work processes' and 'my team frequently seeks new information that leads us to make important changes'.

6.4.3 ICC and RWG Agreement Indices for Team-Level Constructs

The next goal was to demonstrate that it was statistically appropriate to aggregate all self-report measures to the team level. This was to confirm that there was sufficient within-team agreement and between-team variability on levels of the team perspective taking indicators and the other self-report variables. As seen in Table 6.1,

the values for inter-rater agreement (r_{wg}) and group-level reliability (ICC1 and ICC2) all met appropriate criteria for aggregation. For the ICCs, the confidence intervals show that the values are greater than zero, and the r_{wg} values for the teams meet the criteria of 0.70. In the case of the team perspective taking indicators, this evidence supports hypothesis 1.

Table 6.1 Agreement Indices for Self-Report Team-Level Study Constructs

Construct	r_{wg} Mean	ICC(1)	95% CI (lower)	95% CI (upper)	ICC(2)	95% CI (lower)	95% CI (upper)
Team Perspective Taking Indicators							
PT effort T2	0.92	0.14	0.08	0.19	0.44	0.38	0.50
Emp conc T2	0.82	0.17	0.11	0.23	0.51	0.44	0.57
Pos attribT2	0.85	0.22	0.16	0.28	0.58	0.52	0.64
Team Outcomes							
Potency T2	0.88	0.30	0.24	0.37	0.70	0.66	0.74
Potency T3	0.86	0.24	0.18	0.31	0.64	0.59	0.69
Reflexivity T2	0.73	0.11	0.06	0.16	0.38	0.32	0.44
Reflexivity T3	0.69	0.10	0.04	0.15	0.35	0.28	0.41

6.4.4 Hierarchical Regression Analyses with Controls

To test the main effects of team diversity across time points (study hypotheses 2a and 2b), hierarchical regressions were carried out. The control variables were included at the first step of each hierarchical regression. Typically, predictor-outcome relationships were tested between T1-T2 and T1-T3. As can be seen in Figure 6.2, the study framework allowed for these combinations.

Although lagged regression analyses (as used in study 1b) would have provided more evidence towards possible causal interpretations across time points, some of the statistical assumptions required are often violated by this technique, and a common problem is that lagged control parameters are overestimated, while the coefficient predictor parameters (the ones of interest) are underestimated (Williams & Podsakoff, 1989). In the current study the sample size and power to detect effects was already somewhat reduced, and using lagged regressions would have made main effects unnecessarily difficult to detect. The nature of any possible causal interpretation is considered further in the discussion section of this chapter.

Hierarchical regression results tables are presented with two steps in each model: firstly the control variables in step 1 and their corresponding R^2 value for the variance explained in the outcome. Then secondly, the main effects of

predictor/mediator variables, the total value of R^2 including both steps, and the change in R^2 (ΔR^2) between step 1 and step 2; i.e. the incremental variance explained above and beyond the control variables.

6.4.5 Mediated Regression Analyses

The mediation tests (hypothesis 3) were carried out using hierarchical regressions (with controls) and Sobel tests. Firstly, regression findings were examined to check that the basic requirements for mediation as laid out in the Baron and Kenny (1986) procedure were met: the predictor significantly relating to the outcome, the mediator significantly relating to the outcome, the predictor significantly relating to the mediator, and the effect of the predictor on the outcome being significantly reduced whilst being simultaneously included in the model alongside the mediator at the same step. The Sobel tests then provide further evidence of the relative significance of the indirect path between predictor and outcome via the mediator.

The mediations weren't tested using lagged regressions or SEM models for methodological reasons of reduced sample size (N = 47) and lack of statistical power or sufficient degrees of freedom. As mentioned above, lagged regressions can cause biased attenuation of predictor effects (Williams & Podsakoff, 1989). Similarly to the mediations in study 1b, for using SEM models, larger sample sizes and more well-established, self-contained bodies of research are recommended for proper evaluation of parameters and models (Kelloway, 1996). Therefore, these techniques didn't seem appropriate in light of the exploratory spirit of testing team perspective taking. The goal in this study was to detect effects consistent with the proposed framework, which meant sacrificing rigorous causal analysis to ensure greater sensitivity to testing the hypotheses at hand, where although causality was implied, longitudinal change was arguably not a central concern.

6.5 Results

6.5.1 Descriptives and Correlations

Table 6.2 shows the means, standard deviations, and intercorrelations for all study variables at all time points measured. As can be seen in Table 6.2, there is some

general support for the associations proposed in hypotheses 2-3, as evidenced by significant intercorrelations between diversity, perspective taking indicators, and potency/reflexivity outcomes. These correlations are explored in a controlled way and with more rigour via hierarchical regressions in the next section.

Table 6.3 breaks down in full the diversity of the sample by different types, showing the frequencies and percentages of individuals possessing different attributes. Note again that functional diversity categories or attributes were not mutually exclusive – the same individual person could have functional experience on more than one category (intra-personal). As can be seen in Table 6.3 below, majorities would typically be defined as male, in their 30s, having a degree-level education, Australasian cultural background, with some expertise in general management. There are also significant deviations from these majorities in all of the categories, suggesting a suitably diverse sample. Note in particular the richly diverse variety of the sample in cultural backgrounds from different continents and with functional backgrounds in multiple organisational domains, the two types of diversity chosen for further investigation in this study.

6.5.2 Main Effects Between Team Diversity and Team Outcomes

Before running any regression analyses, the data was checked to see that the following assumptions were met: linearity, normality in distributions of dependent variables, homoscedasticity, and lack of multicollinearity between predictors (Tabachnick & Fidell, 2001). These assumptions were checked in the data through further examination of frequency distributions, skewness statistics, residual scatterplots, and correlation coefficients. Univariate and multivariate outliers (with standardised residual of > +/- 2.5) were also typically discarded to preserve the power of the statistical analyses.

Table 6.2 Descriptives for Study 2 Variables

	M (SD)	1	2	3	4	5	6	7	8	9	10	11
1. Interp cultural div T1	0.45(0.22)											
2. Intrap func div T1	2.58(0.80)	.00										
3. Team size T1	5.10(0.88)	.13	-.20									
4. Teamwork exp T1	4.06(0.32)	-.02	-.03	.05								
5. Pos attrib T2	3.95(0.49)	-.08	.16	-.28†	.12							
6. Emp conc T2	4.10(0.45)	-.31*	.29†	-.13	.13	.68**						
7. PT effort T2	4.09(0.33)	-.29†	.36*	-.32*	.17	.68**	.82**					
8. Potency T2	3.93(0.53)	-.12	.26†	-.11	-.06	.58**	.57**	.61**				
9. Reflexivity T2	3.43(0.49)	-.19	.14	-.10	.14	.52**	.48**	.65**	.49**			
10. Potency T3	4.01(0.52)	-.29†	.26†	-.02	-.08	.49**	.58**	.52**	.76**	.41**		
11. Reflexivity T3	3.38(0.49)	-.21	.14	-.11	.11	.38**	.39**	.48**	.60**	.67**	.58**	

† Correlation is significant at the 0.10 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Table 6.4 shows the regression relationship β weights between the two diversity types (T1) and the two team outcomes at T2 and T3. As can be seen in Table 6.4, hypotheses 2a and 2b are supported for one or both outcomes at a particular time point. Hypothesis 2a is supported where inter-personal cultural diversity was negatively related to team reflexivity at T2 and team potency at T3. Hypothesis 2b is supported where intra-personal functional background diversity was positively related to team potency at T3. As expected, therefore, the two types of diversity were associated in opposing ways with the outcomes, with intra-personal functional diversity appearing to be positive and beneficial and inter-personal cultural to be negative and detrimental.

6.5.3 Team Perspective Taking Mediations: Team Diversity (T1) and Team Outcomes (T2/T3), Mediated by Team Perspective Taking Indicators (T2)

Mediated regression models are also shown in Table 6.4, completely testing Baron and Kenny's (1986) requirements for mediation: 1) between the independent variables and the mediator; 2) the mediator and the dependent variable; 3) the

Table 6.3 Sample Diversity Information

Diversity Dimensions	Frequencies and Percentages Breakdowns by Category
Gender diversity	Female: 70(30.8%) Male: 157(69.2%)
Age diversity	20s: 28(12.6%) 30s: 151(68%) 40s: 43(19.4%)
Educational diversity	High school: 9(4.4%) Trade qualification: 2(1.0%) Certificate: 6(2.9%) Diploma: 7(3.4%) Degree: 110(53.4%) Graduate certificate: 44(21.4%) Masters degree: 27(14.1%) PhD: 1(0.5%)
Cultural diversity	Australasia: 144(63.4%) African: 6(2.6%) North American: 4(1.8%) Southern Europe: 14(6.2%) Northern Europe: 22(9.7%) Middle East: 1(0.4%) South Asia: 8(3.5%) East Asia: 17(7.5%) Mixed race: 2(0.9%) Other: 9(4.0%)
Functnl bckgrnd diversity (not mutually exclusive categories)	Those with expertise in: Accounting: 47(22.4%) Corporate/Public relations: 11(5.2%) Finance: 51(24.3%) General management: 98(46.7%) Human resource management: 22(10.5%) Information technology: 52(24.8%) Legal: 16(7.6%) Marketing: 61(29%) Operations: 65(31%) Sales: 59(28.1%) Research and development: 17(8.1%) Other: 23(11%)

independent variables and the dependent variable; and 4) a simultaneously significant mediator and an independent variable that has become non-significant, both in relation to the dependent variable.

For inter-personal cultural diversity in Table 6.4, all perspective taking indicators except positive attributions (which was not significantly negatively associated with cultural diversity; $\beta = -0.04$, $p>0.10$) significantly mediated its negative effects on team reflexivity (T2) and team potency (T3), supporting hypothesis 3. The negative effects dropped to non-significance when empathic concern and perspective taking effort were simultaneously included in the regression models.

Table 6.4 Regression Results for Team Diversity (T1) and Team Outcomes (T2/T3)

	Potency (T2) Step 1	Potency (T2) Step 2	Reflexivity (T2) Step 1	Reflexivity (T2) Step 2	Reflexivity (T2) Step 2 (Mediated)	Reflexivity (T2) Step 2 (Mediated)	Potency (T3) Step 1	Potency (T3) Step 2	Potency (T3) Step 2 (Mediated)	Potency (T3) Step 2 (Mediated)	Reflexivity (T3) Step 1	Reflexivity (T3) Step 2
Team size (T1)	-0.11	-0.05	-0.06	0.03	0.05	0.19	-0.03	0.08	0.10	0.20	-0.10	-0.06
Teamwork exp (T1)	-0.05	-0.05	0.26†	0.27†	0.21	0.13	-0.09	-0.12	-0.19	-0.18	0.13	0.12
Intrapersonal functional div (T1)		0.24		0.21	0.08	-0.02		0.27†	0.11	0.11		0.15
Cultural div (T1)		-0.12		-0.26†	-0.12	-0.07		-0.29†	-0.14	-0.16		-0.22
Emp con (T2)					0.46**				0.52**			
PT effort (T2)						0.72**				0.53**		
R^2	0.016	0.085	0.068	0.171	0.341	0.549	0.011	0.159	0.379	0.359	0.027	0.092
ΔR^2		0.070		0.103†	0.273**	0.480**		0.148*	0.368**	0.348**		0.065
Sobel test (z)					-1.72†	-1.74†			-1.82† (C)	-1.81† (C)		
									2.06* (F)	1.85† (F)		

n =47 teams   **p<0.01; *p<0.05; †p<0.10 (two-tailed). – (C): Sobel test for cultural diversity effect; (F): Sobel test for functional diversity effect

The Sobel tests also confirmed that the indirect mediating pathways via the perspective taking indicators were significant at the p<0.10 level.

For intra-personal functional diversity in Table 6.4, all perspective taking indicators except positive attributions (which was not significantly positively associated with intrapersonal functional diversity; $\beta = 0.11$, p>0.10) significantly mediated the positive effect of the diversity on team potency (T3), supporting hypothesis 3. The positive effect of a team's average intra-personal functional diversity dropped to non-significance when empathic concern and perspective taking effort were simultaneously included in the regression models. The Sobel tests also confirmed that the indirect mediating pathways via the perspective taking indicators were significant at the p<0.05 or p<0.10 level.

6.5.4 Summary of Findings and Hypotheses Supported

- Hypothesis 1 was clearly supported; all three team perspective taking indicators met the statistical criteria in the current dataset for being aggregated as team level constructs, showing that perspective taking can be studied in social systems, analogously yet distinctively, at both individual and team levels of analysis. Team members within teams appear to develop similar levels of perspective taking, and the average/aggregate level of team perspective taking can be used to reliably differentiate between one team and another.

- Hypothesis 2a was largely supported: inter-personal cultural diversity was negatively related to team outcomes, although not at both time points. Hypothesis 2b was supported only where intra-personal functional diversity was positively related to team potency at T3. Nevertheless, these findings provided some evidence to suggest that these diversity patterns did have some opposing negative versus positive relations with team outcomes in the study.

- Hypothesis 3 was supported – the negative associations of inter-personal cultural diversity with team outcomes were significantly mediated by team perspective taking (all indicators except for positive attributions). The positive association of intra-personal functional diversity with team potency was also significantly mediated by team perspective taking (again, all indicators except for positive attributions).

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6.6 Discussion

Study 2, in its contributions, builds on and extends those of studies 1a and 1b in three ways:

- This study establishes that perspective taking indicators can function independently as constructs at the team or group level. Whilst studies 1a and 1b show that team members can perceive their own personal levels of perspective taking, study 2 shows that these components efforts can aggregate to guide the way entire groups process socially diverse information.

- Whilst studies 1a and 1b explored the prosocial implications of perspective taking between team members (e.g. helping, role clarity), this study expanded the construct validation to explore team perspective taking's relations with team diversity and team effectiveness constructs. The study found that team perspective taking indicators are highly implicated in the follow-through of how diversity presents perspectives and how teams draw confidence and reflexive ideas from these perspectives to achieve performances.

- Finally, study 2 builds on and extends the idea of 'situational' or 'state' perspective taking put forward in studies 1a and 1b. Whilst studies 1a and 1b fulfil this aim very directly by examining psychometric properties of a measure and distinguishing it from a trait measure, study 2 takes this idea further in terms of theoretical and practical implications (e.g. interventions). Study 2 shows that a group's perspective taking indicator levels represent a key mechanism capturing *in situ* how effectively the team experiences, manages and translates distinct patterns of its own diversity into functional and adaptive states.

6.6.1 Perspective Taking as a Team-Level Construct

The first major contribution of this study was to confirm statistically and empirically that a team level conceptualisation of perspective taking indicators is viable. In other words, teams appear to develop a shared level of engagement with perspective taking, and these shared perceptions in turn appear to influence important team outcomes. This finding extends prior research and studies 1a-1b of this thesis that look at the individual-level roles of perspective taking indicators in groups (Galinsky, 2002). Studying perspective taking at the team level acknowledges it as a meaningful multilevel process (Klein & Kozlowski, 2000). It also ties perspective taking more

firmly in with paradigms of sensemaking and social cognition, which argue that practically and motivationally, groups of people come together to negotiate meaning and overlapping sets of perspectives, implying that attending to and coordinating perspectives is also something shaped collectively (Fiske, 1992; Weick & Roberts, 1993).

This study recognises that in addition to individual team members having component interactions which combine to form a whole, the whole team itself has a perspective taking climate about it (Huber & Lewis, 2010). The basic conceptual point to be reiterated here is that in one sense, individuals do not have totally idiosyncratic perspective taking styles that exist in a highly personalised vacuum; perspectives need to be shared and negotiated within the configurations of a higher-order social entity like a workgroup – to have these perspectives confirmed, to cooperate with them, be influenced by them, to belong etc. (Baumeister & Leary, 1995; Gehlbach, 2004; Parker et al, 2008). For perspective taking to be truly effective, it also logically requires feedback from the other parties in possession of the perspectives being taken. Effective perspective taking is not about isolated individuals actively attempting it on their own, but rather entire teams that reciprocally attempt, correct, and verify what their perspectives are about.

6.6.2 Diversity and Team Perspective Taking

Workgroups have many different dimensions of diversity, and these can be seen as a potential source of perspectives affecting the team's level of perspective taking in different ways. This study made a distinction between inter-personal cultural and intra-personal functional aspects. As hypothesised in the mediations, intra-personal functional diversity showed some positive associations with team perspective taking indicators whilst inter-personal cultural diversity of the team showed negative associations. This places team diversity clearly as an antecedent to team perspective taking.

Thus the diversity of the team in various forms determines stimulation of the shared levels of team perspective taking. This study showed that team members with functional expertise in multiple areas were beneficial for perspective taking, whilst team members from different cultural countries/continents interfered and reduced it (Bunderson & Sutcliffe, 2002; Earley & Mosakowski, 2000). This implies that it can be beneficial for team understanding if teams contain members who have undergone transitions through, or spent time appreciating, different areas of expertise. High levels

of intra-personal functional diversity might be achieved via job rotations, cross-training, and practising an understanding that categories are flexible and can overlap (Campion et al, 1994; Marks et al, 2002; Roccas & Brewer, 2002). At the same time, just slavishly introducing multiple people from different cultural backgrounds into a team is likely to reduce efforts at perspective taking, creating impenetrably dissimilar categories and identities and encourage stereotyping (Cox & Blake, 1991; Milliken & Martins, 1996).

In the current context of an MBA program, the data suggests that it's important to perhaps focus less on inter-personal categories like culture, and more on flexible intra-personal experiences that are likely to have the most potential to improve the quality of the work. Even more specifically, the measure of functional diversity was measuring the possibility of each team member bringing multiple relevant perspectives simultaneously. Teams need to celebrate this valuable (if complex) aspect of their diversity and its perspectives, as the performance benefits are clear, in contrast to labelling people according to singular, crudely dominant aspects (Bunderson & Sutcliffe, 2002).

Research on diverse workgroups should thus seek to measure different types of salient intra- and inter-personal diversity where possible; as in some sense this provides an initial map or sense of how the team will expend effort on coordinating and discussing its views in relation to its work tasks. Some more categorical forms of diversity – like culture - may undermine perspective taking directly or distort its beneficial effects by making people feel defensive, confused, uncomfortable, and threatened (Vorauer et al, 2009). As a group becomes aware of itself, it needs to deal with its diversity in non-threatening ways, by being clear but also inclusive on what constitutes a relevant work perspective worth taking in the first place.

Cultural categories and other divisive, more intractable diversity labels can split teams, undermining perspective taking by creating mutual ignorance, social categorisation, and disidentification between subgroups (Earley & Mosakowski, 2000; Fiol, Pratt, & O'Connor, 2009). These aspects of workplace diversity therefore may often need to be converted away or downplayed in favour of more shared aspects. It is an irony that often the most beneficial aspects of group diversity are within persons, more subtle, and positively relate to perspective taking - revealing and confirming meaningful issues in ways that are crucial for the team's viability (Clair et al, 2005; Swann et al, 2004). Therefore when teams are formed they need to take particular efforts to be open; to understand what characteristics they have that relevantly affects

the way they work together. If teams are from totally different 'thought worlds' and this is emphasised, their perspective taking will struggle, but if there is admission that people have different stories, and that there may be some overlap to ease the dissimilarity burden, this will inspire more effort and construction of shared enterprises (Dougherty, 1992; Keen, 2006).

A final additional finding was to do with team perspective taking indicators; positive attributions were the only indicator that showed no direct associations with diversity, thus also not significantly mediating diversity effects. This seems to be confirming and suggestive of the idea that positive attributions might be a very general cognitive 'result' of a prior perspective taking chain of reasoning, cutting generally across types of diversity (Davis, 2005). However, empathic concern has also been defined in this thesis as an emergent 'results' indicator and it did relate to diversity as hypothesised. It may be that attributions are less about directly attending to diversity patterns and more concerned with the general accommodating explanations and resolutions for social issues more broadly (Silvester et al, 1999). Along these lines, positive attributions have appeared to play a more prominent role in relating to general organisational situations of success, failure, and conflict (Martinko et al, 2006).

6.6.3 Team Perspective Taking as a Diversity Process

The study clearly shows that team perspective taking can partly explain the negative effects of inter-personal cultural diversity and the positive effects of intra-personal functional diversity on potency and reflexivity. Team perspective taking therefore fits into the sought-after class of variables that act as 'black box' or diversity process concepts explaining how diversity has its consequences for effective teamwork (Lawrence, 1997; Pelled, 1996).

This adds to the literature identifying mechanisms and/or conditions under which diverse workgroups can succeed in simultaneously trying to make innovative use of their diversity to improve the quality of outputs whilst sticking to time/budget constraints to maintain efficiency. The three indicator measure of situational perspective taking expands on other research which has shown similar beneficial effects in diverse teams which are free to express doubts and hold constructive debates (Lovelace et al, 2001; Simons et al, 1999). This is an important contribution in terms of showing the types of perspective taking efforts and perceptions that are needed to avoid process losses and protect team viability.

Perspective taking in the data seems to capture how much teams are 'getting to the heart of the matter' regarding their diversity –the meaningful contrasts worthy of effort, the situational causes rather than the blame, and the important emotional reactions that need to be registered. This complements other recent work on diversity-performance links, which has tended to look at moderating individual differences amongst team members, like need for cognition and openness to experience (Homan et al, 2008; Kearney et al, 2009). Research has also looked at moderating contextual factors such as how a shared work location and uncertain environment can harness more value from diversity (Cannella et al, 2008). Team perspective taking offers an additional concept to this recent array; a more general, mediating social process that has the potential to be trained and manipulated (Gehlbach, 2004). Future research can seek to integrate the moderating effects around the process of perspective taking, seeing which contextual features impact it the most.

Team perspective taking makes another contribution in explaining that social categorisations need not always lead to bias (i.e. stereotyping can be protected against) and persuasive arguments or points of view can be incorporated without inefficient, diversity-related process losses (i.e. because they are attended to in an appreciative, acceptable manner) (Huber & Lewis, 2010). What is important is the depth and extent to which the diversity can be flexibly shared. Teams with members from different cultures are not simply 'split-teams' if they can emphasise overlapping, job-related aspects of that diversity which are more flexible and comprehensible (e.g. team members from another culture may have experience working with organisations in a particular developing country). Negative relations of culture with reflexivity were partially explained away by perspective taking (or relative lack of). However, this doesn't confirm that high perspective taking can swing inter-personal diversity through to stronger positive relationships. This is a significant testament to how challenging diversity can be in teams and the somewhat delicate reality that not all forms of diversity are accessible, and may not need to be emphasised or made salient at all, but reframed instead (Van Knippenberg & Schippers, 2006).

Intra-personal functional diversity was intentionally conceptualised in a way that highlighted its utility and relevance to the group work – teams already seeded with a complex array of expertise within each team member have the biggest natural reserve and awareness of perspectives to draw on, encouraging the high perspective taking activity needed to benefit collaborative team process (Woolley et al, 2008). Intra-

personal functional diversity was positively correlated with team perspective taking and so future research may wish to establish whether it is a positive causal antecedent of perspective taking over time. Seeding project teams with members with a portfolio of relevant experiences may also mean that perspectives come 'ready-made' and require less effort to be engaged with. The major implication is that perspective taking helps to sort through and make sense of diversity, to avoid harmful stereotypical aspects and focus on constructive relevant perspectives that stimulate learning and help the group to stay together (Gibson & Vermeulen, 2003).

6.6.4 Team Perspective Taking and Team Effectiveness

Team perspective taking indicators generally showed strong positive relationships with both positive team outcomes of potency and reflexivity. This in itself is a significant contribution in identifying correlates for perspective taking at the team level, to build on and extend Study 1b. This allows organisations to assess and understand the types of prosocial benefits perspective taking can have for whole teams, above and beyond the component interactions between individual team members. Teams that take perspectives more as a whole in the multiple ways defined are likely to be more positively energised, confident, and reflexive about questioning their approaches to their work. All these concepts are relevant to ensuring effective and efficient diverse workgroups.

This also paves the way for more research using larger samples testing the discriminant validity of specific team indicators' associations with specific team outcomes (Ilgen et al, 2005). For example, positive attributions and empathic concern might be expected to show the strongest relations with relevant aspects of teamwork, in line with their status as 'results' indicators of perspective taking, placed more distally from general dispositions or internal starting states, and more proximal to general, observable 'outcomes' of any perspective taking endeavour.

It might also be the case that the perspective taking effort indicator in particular works by capturing some of the difficult questioning at the heart of reflexivity. It may positively relate to dialectical reasoning; accepting ideas that appear to oppose one's initial perspective, often requiring a challenging integration or overcoming to incorporate them and move forward (Basseches, 2005; Wegerif, 2008). Thus, in situations in diverse teams where a 'reality check' is needed, or a sudden turbulent period of change or reflection, it may be more important to explicitly direct efforts

toward reconciling contrasting perspectives, rather than seeking to generate other forms of perspective taking. In short, future work with larger samples of teams can structurally model differential paths between different indicators to investigate the existence of important distinctive relationships.

6.6.5 Practical Implications

The practical implications considered here for managers and organisations with diverse teams are threefold.

Firstly, managers and organisations need to pay attention to the diverse composition of groups and the salience of various team diversity dimensions. Given the clear task-related, beneficial influences of intra-personal functional diversity in this study, this is one central feature of diversity to be emphasised throughout team formation and development. Thus organisations should form teams by instilling them (and seeding them if possible) with an awareness that each member has multiple potential sources of functional expertise (task perspectives), and a commitment to embracing that functional complexity. This will help teams to surface and discuss important distinctive information that might otherwise go unnoticed in attempts to reach quick consensus (Huber & Lewis, 2010). On the other hand, inter-personal cultural differences in the team will probably need to be downplayed or reframed in more flexible, intra-personal terms. This may also apply to other candidates for inter-personal diversity like gender and age. Initial compositions and diversity may not be totally flexible, ethical or easy to control, however. For teams that are particularly vulnerable to dividing over categories and less job-related, inter-personal diversity, honing in on the mechanisms of perspective taking will be critical. Teams should promote reasoning efforts around contentious issues, encourage empathic discussions and map positive attributional causes in a focused, constructive way.

Identities are complex – a woman is not just a woman, a woman is a woman with different functional experiences (e.g. working in female-dominated industries) (Roccas & Brewer, 2002). Likewise several culturally diverse members of a team may well have multiple differences in expertise (e.g. working in expatriate environments, cross-culturally, or in developing countries). The relevance depends on the overall purpose of the team, the complexity of its tasks, and the nature of its interdependencies. Many top management teams, project teams and other cross-functional teams that are becoming increasingly popular forms will wish to reframe their diversity intra-

personally to improve functioning and effectiveness (Cohen & Bailey, 1997). Even if a team is not trying to get at diversity for the task per se it may still want to reframe its differences in new ways that enrich the workplace (e.g. social events).

It seems to be the deeper experiences of team members that cut across categories that are important (Crisp & Hewstone, 1999). Thus practices that allow for job rotation, cross-training, and inter-group contact of any kind are likely to transform inter-personal diversity into more overlapping forms where less bias is involved, and more active, confident efforts to regard perspectives as similar and accessible (Campion et al, 1994; Marks et al, 2002; Pettigrew, 1998). Research has shown that the challenges of cultural bias and stereotyping can be overcome to promote perspective taking and task creativity; if workers have lived or stayed in different countries for prolonged periods, they become better at effortful processing of diverse cultural information (Leung et al, 2008). Even getting team members to simply imagine their interactions from different angles is a proactive technique for reducing stereotyping, distrust, and promoting search for surprising areas of common ground and innovation (Turner et al, 2007).

In short, a team needs to see itself as a team with overlapping perspectives to start trying to take those perspectives and actively engage in positive, performance-relevant interpretations. If the team members see themselves as having enduring, mutually exclusive, non-overlapping perspectives, then they will fragment into isolated ethnocentric factions according to these group memberships, and perspective taking will be diminished (Fiol et al, 2009). Thus managers of teams need to engage in practices like those mentioned to bridge across any fragments in the team; to create deeper understandings and an awareness of diverse, but always somewhat overlapping experiences.

Secondly, managers can look practically along the mediational chain from team diversity to directly encouraging team perspective taking. This is likely to constitute assessing specifically stated beliefs about where diversity can make a difference in order to keep teams' agendas focused; avoiding conflict and neutralising process losses of time and energy. This is akin to ensuring effective cycles of 'perspective making' as well as perspective taking; ensuring that groups come together to socially construct their diversity in ways that matter most for their viability and completion of their tasks. This is making a 'perspective on diversity' for the teams to endorse and sustain positive perspective taking attentions, like something of a self-fulfilling prophecy. Managers should seek to highlight examples where diversity is working particularly well and thus

legitimise beliefs in how this diversity can enhance teams' performances (Ely & Thomas, 2001; Homan et al, 2007). This might include bringing minorities in on relevant pieces of work, initiating projects in ambitious new directions that can be supported by diversity, and encouraging diverse mentoring and relational collaborations (Ely & Thomas, 2001; Ragins, 1997).

A final implication is that team perspective taking complements and builds on individual perspective taking components. Interventions should therefore be multilevel. Whilst individuals can be coached and use diversity training and interpersonal skills, whole groups should also be targeted, to ensure that perspective taking is improved in a normative sense. For example, groups may want to go through diversity computer simulations or group tasks with contrasting perspectives together, initiatives that develop their perspective taking efforts, and improve their potency and reflexivity for finding solutions (e.g. globalised business dilemmas; Bos et al., 2006). Recognising and rewarding these positive team processes jointly (deep/surface diversity management, perspective taking, potency, and reflexivity) where appropriate is also important for threading superior collective actions together. Ultimately such practices should improve teams' diversity climates – so that resources, opportunities, and workload become shared more effectively and fairly (Kossek & Zonia, 1993).

6.6.6 Limitations and Future Research

The study is not without some limitations, if only because it drew on a secondary dataset and couldn't control all aspects of its investigation. Some general limitations such as the external validity of an MBA program sample, the validity of self-report measures, and common method variance have already been discussed for studies 1a and 1b, and are not repeated in full here. There are however, some potential limitations specific to this study.

One limitation of the current study and a suggestion for future research is in terms of studying multiple forms of diversity in other combinations and patterns. The current study simply looked at two diversity types and two independent measures. In this study, the type of diversity (cultural/functional) was partly confounded with the measurement (inter-personal/intra-personal), because alternative questions were not developed or readily available. However, a fuller study with primary data would potentially be able to address this limitation by additionally measuring inter-personal functional (dominant specialisation/experience) and intra-personal culture (multiple

countries lived in, languages spoken) differences, thus more conclusively disentangling positive or negative effects of diversity characteristic and diversity measure/operationalisation.

Diversity dimensions can also interact with each other. There are ways of analysing the subgroups within teams aligned on multiple dimensions (e.g. age and gender – clusters of young women and old men). These are typically referred to as diversity 'faultlines', given their potential to split/divide the group according to strongly salient subgroups (Lau & Murnighan, 1998). The reverse situation, where subgroups are not strongly aligned, has positive implications for reducing categorisation bias, because forms of diversity are said to be cross-cutting across intergroup boundaries within the team (e.g. age and gender – some young women, old women, young men, old men) (Crisp & Hewstone, 1999). This cross-cutting is an important way of enabling people to 'see past' categories and potentially engage with perspective taking for deeper, more valuable forms.

For this study, I did in fact calculate faultline indices for the sampled teams, using an appropriate measure (Shaw, 1994). However, faultline diversity didn't clearly exist in this sample because groups were allocated with a degree of deliberate care to be relatively diverse across dimensions. There is one other study on faultlines in MBA teams, but those teams were *randomly* formed (Thatcher et al, 2003). The faultlines in the current study were too weak; on an index ranging from 0 to 1 the values never went above about 0.3, and the mean values were much lower. This also meant that faultlines didn't correlate significantly with any of the study variables, and so couldn't really be examined further. Thus faultline research often uses laboratory conditions to artificially create faultlines in groups (e.g. Lau & Murnighan, 2005). Some work in applied settings has been conducted however, and has shown curvilinear relations between faultlines and group functioning. If there is a lack of subgroups, then the teams are very homogeneous; if there is a high level of subgroups that is too strong, the team is at risk for splitting into disconnected factions. Teams with moderately strong subgroups can use this optimal diversity to stimulate learning, improve performance, and also to experience somewhat reduced conflict (Gibson & Vermeulen, 2003; Thatcher et al, 2003). It has also been found that positive diversity beliefs can overcome the negative effects of faultlines in laboratory groups (Homan et al, 2007).

Thus future research might examine how faultlines affect team perspective taking and team outcomes. Whilst we might expect faultlines to negatively impact on

perspective taking by inhibiting communication between subgroups, we might also expect perspective taking to be a mechanism relating faultlines to team effectiveness, or a moderating condition that can protect against negative effects. Conversely, it may also be that setting up cross-cutting group categories is a supportive condition for enhancing team perspective taking. Group composition and how harmoniously it is perceived is a scientific problem in itself (Bell, 2007). Teams can be diverse on almost any psychologically measurable characteristic – from their personalities to the emotions they experience (Barsade, Ward, Turner, & Sonnenfeld, 2000; Neuman, Wagner, & Christiansen, 1999). Ongoing field research is important, but laboratory research and also qualitative case studies seem needed, to gain proper insight into a fuller range of richly diverse team situations. As conceptualised in this study, these are to some degree the starting conditions that determine the lie of the land, and the shared nature of available perspectives. Diversity can be vulnerable to misinterpretation or flexibly shared for distinctive value, while other types need to be totally homogenous, shared, and 'one sise fits all' across the team.

A second limitation of this study is that subjective measures of diversity perceptions and beliefs were not included to complement objective patterns; asking teams what they believe about diversity. Research does show that specific beliefs about diversity enhancing performance can help subsequent performance (Homan et al, 2007). Diversity perceptions generally can have a range of potential affective, behavioural, and cognitive content that may become self-fulfilling group dynamics. Work on measures of diversity perceptions is in its infancy, but the depth, breadth, and balance of how a team believes diversity will affect its interactions is likely to have a significant subjective impact on its perspective taking and process, above and beyond objective composition (Hostager & De Meuse, 2002). More research is needed to show exactly what people believe about diversity in different teamworking cultures, and how this affects their engagement with it. Diversity mindsets (of which perspective taking is a part) have been flagged up as an additional feature of diverse working that can help in reconciling the mixed performance findings (Van Knippenberg & Schippers, 2006).

As with studies 1a and 1b, study 2 took a relatively positive, context-specific approach to investigating diversity. Team diversity was conceptualised and aggregated under a useful 'variety' paradigm, where diversity is seen as represented by relatively neutral qualitative differences in kind (Harrison & Klein, 2007). MBA teams are also relatively collaborative in general; one could argue there is a general assumption that

such teams are working jointly on broad projects where diversity can be included and welcomed. Whether this always generalises is another matter. Thus more work on the darker sides of perspective taking, or at least different 'disparity' (power/resource-based) and 'separation' (attitudinal differences on key issues) conceptualisations of diversity could be very useful (Ely & Thomas, 2001; Harrison & Klein, 2007).

Workgroup diversity can be about power plays or catch 22 issues with deeply conflicting factions, and the distribution of perspectives may be skewed (Harrison & Klein, 2007; Huber & Lewis, 2010). Different methodologies like case studies and social network analysis may serve to best capture these different team patterns. Team perspective taking may operate amidst diversity in a range of different ways, and different diversity operationalisation will help to build a more comprehensive theory of the concept (Huber & Lewis, 2010). Teams are not always inherently democratic – they will vary in their power structures, their turnover, and the contestable nature of the issues they deal with.

The current study could also be extended by considering conflict resolution strategies (Behfar, Peterson, Mannix, & Trochim, 2008). Conflict resolution processes are likely to intervene between diversity and team outcomes. Some teams aim for easy consensus and quick delegation, often at the cost of not making full use of diversity and perspective taking potential. Norms for dealing with conflict are thus likely to impact team effectiveness (Jehn, 1995). In the current study, team perspective taking is likely to be moderated and/or mediated by other, interlocking norms about conflict resolution – including voting, devil's advocacy, and rule-making (Tjosvold et al, 2003). Behfar et al.'s (2008) study of team conflict resolution types showed that high performance and high satisfaction could be achieved simultaneously by a 'total participation' approach of proactive conflict forecasting and positive interpretation, which is partly consistent with perspective taking's prosocial emphasis.

Future research can continue to test competing mechanisms and boundary conditions that not only explain diversity effects, but support or compensate for team perspective taking in strengthening positive effects and finding value in diversity. One possible complementary concept might be self-verification; team perspective taking at some stage is likely to involve team members identifying and confirming each others' personal and social identities, which has also been implicated in finding value in diversity, reducing the problems of conflict, and improving positive team functioning (Polzer et al, 2002; Swann et al, 2004).

Another complementary concept might be the emotional intelligence of the team – the reserve of experiences and learning that the team has in regulating its emotional states. This would almost certainly inform the team empathic concern indicator of perspective taking, and has also been shown to compensate for poorer cognitive processing in teams to maintain conflict management and performance (Côté & Miners, 2006). Another construct is task elaboration; the notion that team members discuss and incorporate ideas to converge on shared task representations (Van Ginkel & Van Knippenberg, 2008). Once perspectives are taken and understood, they are surely combined and synthesised. These concepts are quite involved and require separate measurements from those available in the current study, but offer promise for further developing perspective taking theory and elucidating how teams process social information and what they do with it.

One final point, as already alluded to in study 1b, is that this study made use of self-reports and didn't draw on any objective performance measures. Yet as with study 1b, the purpose was to ask team members about the processes and perceptions within their own team, arguably best captured by self-report. Common method bias was reduced by means of measures at separate time points, as well as variables that asked about very objective characteristics (particularly diversity variables) bearing no necessary psychological relation to anything else that would be obvious or desirable to participants (Podsakoff et al, 2003). Although the study framework strongly implies a flow of causality and does use separate time points, the relatively small sample size precluded the use of more elaborate causal statistical modelling. The study must be interpreted with caution and some concession towards possible reciprocal effects and third variables. Although a power analysis showed that the sample size was satisfactory for detecting effects, the ability to detect some of the effects may have been compromised. The two-tailed significance level was relaxed to $p = 0.10$ given the clear directional nature of hypotheses, but the study still may have been rather conservative, and underestimated relations that might be more significant if future work carries out similar studies with larger samples. Again I would, however, draw attention to the strengths of this study in terms of the comprehensive teamworking concepts available and rich diversity information.

6.6.7 The Next Chapter and Study

There is a missing link in the study 2 framework that has been partly raised in the discussion to this chapter. It has been established that team perspective taking can play a central role in relation to team diversity and well-coordinated team processes that make use of diverse viewpoints. Yet it still remains to find out what might contextually support, promote, and explain team perspective taking further in its own right. There is also the question of the target of perspective taking – for entire organisations to function effectively it needs to take place between teams, tasks and functions, not just within them. So far the studies in this thesis have generally proceeded in a bottom up manner, exploring individual component interactions between team members, and then teams as interdependent wholes. But to fully explore team perspective taking as a social relating process in a diverse system, there is a necessary ambition to consider multiple organisational teams in concert – including the team's environment, perceptions of the organisational context, as well as the team's ongoing attitudes towards its work. This helps to enhance the generalisability of this thesis beyond MBA project teams working relatively independently from other teams, and on short-term goals.

In sum, the next study (study 3) is primarily another team study, but with some expansions in how teams and their perspective taking efforts are investigated. The study investigates a complex military organisation with interlocking teams and departments, as well as higher order organisational units (in this case - ships). The study is aimed at tracing some conditions and mechanisms that explicitly support team perspective taking, including the elaboration of team perspective information, and the environment inside and outside the teams in a complex organisational system.

Chapter 7: Supporting and Explaining Team Perspective Taking and its Effects in a Complex Multi-Team System

7.1 Chapter Overview and Aims

In this chapter I will:

- Introduce a further measure of team perspective taking concerning perceived 'understanding' or 'effectiveness' of various targets (i.e. other teams versus own team), and test whether perceived accurate understanding within a team is positively related to team perceptions of performance, helping, and morale.

- Test a key mediator and moderator of team perspective taking effects within a complex organisational system that has many teams spanning functional departments. Specifically, whether elaboration of task information mediates a positive link between team perspective taking and performance. Secondly, whether between- or inter-team perspective taking moderates within- or intra-team perspective taking's positive associations with key team perceptions of performance, helping, and morale.

7.2 Study 3: Study Context and Overview

This study, study 3, measures perspective taking by varying the target. Specifically, other teams working in the wider system versus a focus on one's own team and its members. A key contribution of taking a situational approach to perspective taking is to show that different targets available constitute different situations that impact how beneficial perspective taking can be for team outcomes.

Thus I use duplicate measures of perspective taking, changing only the referent of one's 'own team' to 'other teams' with connected functions but in different departments. To do this I develop a measure of team perspective taking that assesses perceived understanding of thoughts and feelings for one's own team versus other teams. This measure will be referred to as intra-team or inter-team *perceived understanding.* This measure was developed because one of the main aims of this study is to look at the focus/target of perspective taking rather than its form/content, which was examined in previous studies.

This study therefore provides a measure of perspective taking that assesses perceptions of how comprehensively, objectively, and accurately a target perspective is

understood. This measure complements the 'active' more motivationally-based indicator measures used previously in this thesis by tapping perceived perspective taking performance or effectiveness, whereas the perspective taking indicators assess motivation and commitment to positively interpret perspectives. In a complex system where teams are burdened with social information processing from their own team and other surrounding teams, it is arguably more important to examine perspective taking feasibility and competence to understand how they perform and coordinate. This study is thus also more focused on self-reported team perceptions of performance, morale, and helping. This study's contribution is to look more closely at perceived team performances per se, where previous studies in this thesis have looked more at the motivation and engagement to ensure positively rewarding interactions.

This study aims to establish the relevance of team perspective taking for the 'bigger picture' of many teams working in a complex organisation. These are teams working for a prolonged period of time, where elaborate performances and long-term relationships are critical for team effectiveness, somewhat in contrast to the relatively more short-term MBA project teams in studies 1a/b and 2. In accordance with this overall aim, the study was carried out in a complex military (naval) organisation, where multiple teams work across various technical/functional departments in concert. These teams create outputs that serve the functioning of a higher-order complex system – in this case the ship.

Study 3 involved collecting cross-sectional survey data from a relatively large sample of teams working in different departments and on different ships. The two perspective taking measures of *perceived understanding* were included, one for one's own team (intra-team) and one referring to other teams (inter-team). Task information elaboration was measured and tested as a mechanism linking intra-team perceived understanding with perceived performance. In addition, teams' perceived external inter-team perceived understanding was expected to moderate positive associations of intra-team perspective taking.

In terms of team outcome perceptions, helping was included, alongside newer, more long-term, sustainable ones of team morale and performance. Together these outcomes capture how social information from perspectives can be used to enhance perceptions of in-role and extra-role/contextual performance.

For the study as a whole, the team was the sole level of analysis, given the relatively clear segmentation of workers into named teams and the study focus on

successful coordination in a wider social workplace system. All variables pertained to what went on in the teams themselves. A team perceives interdependent perspectives across its boundaries, not just within them, and sets its work within a 'bigger picture' system of diverse perspectives.

The developments and contributions of this study over previous studies in this thesis are threefold. Firstly, examining a complex long-term organisational setting with more fully-developed tasks and performance episodes than project teams allows for perspective taking to be assessed in terms of perceived effectiveness and thoroughness. In contrast, a positive, motivated attitude is arguably more important for constructive, viable MBA project teams. In this setting, there was a greater opportunity to link accurate perspective understanding to core team effectiveness perceptions.

Secondly, this study contributes by exploring perspective taking of different targets within the same setting. This contribution advances the situational approach taken throughout this thesis in demonstrating that the sources of perspectives have an important impact on how perspective taking relates to outcomes.

Finally, the study incorporates task information elaboration as a mechanism linking intra-team perspective taking with perceived performance. Inter-team perspective taking is also presented as a boundary condition that moderates intra-team perspective taking's relations with all team outcomes, strengthening them. This gives some indications as to how team perspective taking can be supported in its own right, operating within a large complex system of other teams, departments, and higher-organisational units.

7.3 Theory Development and Hypotheses

I briefly summarise the construct definitions and hypothesised research model before explaining each study hypothesis in more detail in subsequent sections.

Brief construct definitions are given for study 3 team perspective taking, team process, and outcome constructs in Table 7.1 below.

Figure 7.1 below shows key proposed relationships between these constructs graphically. I next turn to some theory-based justifications for each of the empirical relations proposed.

Table 7.1 Study 3 Team Construct Definitions

Construct	Definition	Construct	Definition
Team State/Process		*Team Outcomes (self-report)*	
Elaboration	The extent to which team talks about different task conceptions, exchanging a lot of task info, and leading to new ideas	Performance	Team's perception that it produces high-quality work, fulfils standards and deadlines, and exceeds requirements
Team Perspective Taking (PT)			
Perceived understanding (intra-team)	A team's general perception that it understands how its own team thinks and feels at work	Morale	Team's sense of purpose and commitment to persist in working together to overcome problems and take actions in dangerous/difficult situations
Perceived understanding (inter-team)	A team's general perception that it understands how other surrounding, interdependent teams (e.g. in different departments) think and feel at work	Helping	The extent to which a team and its members help those falling behind, offer support/encouragement, and go out of their way to resolve disagreements

Figure 7.1 Hypothesised Study Relationships: Team Perspective Taking Main Effects and Team States/Processes Interactions
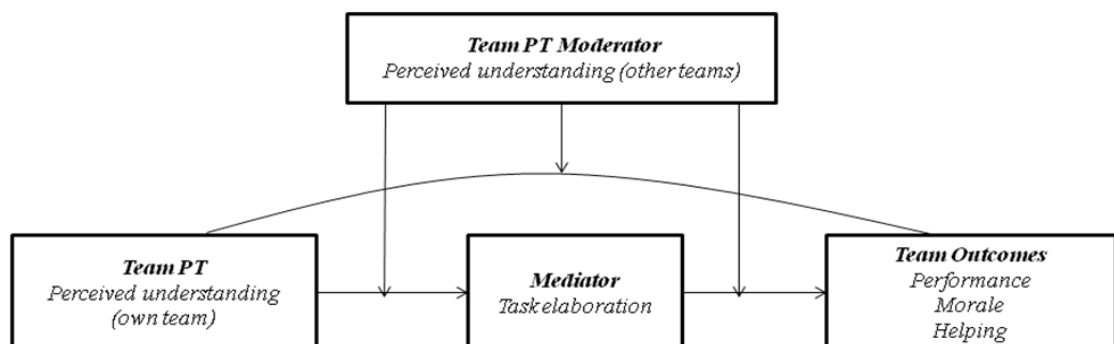
7.3.1 Perceived Understanding and Team Outcomes: Perspective Taking with Own Team Versus Other Teams as the Target

In this study I use a general measure of intra-team and inter-team *perceived understanding*, capturing how thoroughly teams understand their own perspectives

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versus those of other teams in a multi-team context where teams are interdependent. This was in order to incorporate a direct process measure of team perspective taking effectiveness that would relate to perceptions of effective team performances - one that is content-independent (i.e. cognitive and affective all inclusive), and builds on the situational approach of this thesis by showing that different targets can vary in how they are perceived to be thoroughly and accurately understood.

Perceived understanding provides a direct sense of how well a team understands thoughts and feelings of a particular target in a complex social and/or organisational system. This general conceptualisation draws from recent perspective taking work reviewing the relatively synonymous concepts of everyday mindreading, cognitive perspective taking, and perspective taking effectiveness (de Waal, 2008; Ickes, 2003; Parker et al, 2008).

This measure builds on recent research that argues as well as the 'active' motivated commitment to engage with perspective taking, as measured by the indicators previously in this thesis, there is a parallel form of perspective taking in terms of how effective, accurate, and comprehensive the understanding of a target is (Gehlbach, 2004; Parker et al, 2008). Thus rather than 'trying' to constructively engage with viewpoint differences, the team is reporting in parallel how objective, accurate, and comprehensive its assessment of a specific target is, independent of content-specific efforts (Parker et al, 2008).

As mentioned in the introduction to this thesis, absolute perspective taking accuracy is a challenging goal with several potential criteria (e.g. Ickes, 2003), but nevertheless it is worth measuring as distinct from effort or motivation, given its relevance to team effectiveness-based outcomes (Parker et al, 2008). For example, it is possible to try very hard at perspective taking in an active sense, but ultimately still lack a thorough understanding. The reverse is also true, that a situation may require little perspective taking effort but still involve a high level of understanding, if it can be construed as relatively transparent and unambiguous.

I propose this general orienting mechanism and sense of understanding of other targets in the social context as central to a perspective taking act, drawing on declarative knowledge structures to accurately understand the symbols, schemas, and responses of other targets with as much complexity as possible (Huber & Lewis, 2010; Karniol, 2003). The quintessential case of perspective taking in a team-based organisational context is likely to be that of a general understanding of one's own workgroup or team.

From a social identity theory standpoint, this is the most immediate, strongest, influential perspective to be understood amongst workers – the tightly-knit focus of a primary workgroup (Van Dick, Wagner, Stellmacher, & Christ, 2004).

Thus my first proposition is that intra-team perceived understanding has a direct positive relation with teams' perceived performance, helping, and morale. Firstly, higher understanding of intra-team perspectives is likely to be positively associated with perceived performance in terms of more effectively understood communications, greater adaptation to team member needs and ideas, inclusive information sharing, learning, and less conflict or inefficient loss of time/activity (Huber & Lewis, 2010). Research has confirmed that perspective taking is associated with tailored communications, improved customer service performances and cooperative team member performances (Axtell et al, 2007; Krauss & Fussell, 1990; Parker & Axtell, 2001). Team members high in perspective taking will coordinate more effectively by giving instructions efficiently so that others can learn from them, taking into account knowledge gaps in the team (Cronin & Weingart, 2007; Nickerson, 1999; Roβnagel, 2000). Teams high in perceived understanding are also likely to learn how to weigh the contributions of contrasting core and peripheral roles more effectively, with positive implications for above-average standards of team performance (Humphrey et al, 2009).

Secondly, high intra-team perceived understanding should be positively associated with morale, because team members will know that other members will have the comprehension to back them up and cooperate on key endeavours (Galinsky et al, 2005; Porter et al, 2003). Teams able to show more complex displays of emotional and intellectual understanding are more likely to generate admiration among members and informal, inspiring leadership that will improve morale (Kellett, Humphrey, & Sleeth, 2002). Via higher internal perspective taking, teams will feel more confident and socially competent that they can work through crises of confidence like conflicts and ethical decisions to forge comprehensive, constructive solutions (O'Connell Corcoran & Mallinckrodt, 2000; Sonenshein, 2007). Team members are likely to feel safer to communicate because they know they will be better understood, even under conditions of uncertainty, error and threat, because emotions will be successfully recognised and regulated (Edmondson, 1999; Williams, 2007). In sum, intra-team perceived understanding is likely to be positively associated with morale, or a team's sense that it can persist to overcome problems and take actions in difficult situations. Team members

are likely to collectively feel reassured that they will be effectively understood, intellectually and emotionally.

Finally, high intra-team perceived understanding should be positively associated with team helping behaviour. Some arguments have already been made with reference to similar relationships of perspective taking indicators with helping in study 1b. In this study, a team's perceived understanding of itself will give it a thorough sense of its needs, strengths, limitations, synergies, and therefore where help is needed and how it might best be given (Huber & Lewis, 2010). Perspective taking will engender altruistic impulses in the team as its members have a more objective grasp on the situational challenges faced by team members, and the need to compensate for them (Batson, 1991; Moore, 2005). Effective noticing and recognition of emotions will also generate compassion; mobilising resources to be effectively used to alleviate failure or discomfort for affected parties (Dutton et al, 2006). Perceived understanding will motivate collective helping behaviour as teams will have a more complex and thorough knowledge of the stories of their members, being more invested in the value of their welfare (Batson et al, 2007; Keen, 2006).

In contrast, I also propose here that inter-team perspective taking will, on average, be significantly lower than intra-team perspective taking, and will not show any direct positive associations with team outcomes. Having an effective perceived understanding of other teams may be distracting, a drain on cognitive resources, and/or be positively associated only with outcomes at the inter-team level (e.g. helping other teams) (Richter, West, van Dick, & Dawson, 2006). In all likelihood such information will probably not be harmful to team functioning, but it may provide a range of information and insights varying in valence and relevance for the team's internal environment.

Team coordination is generally considered to be conducted very locally and interpersonally (Edmondson, 2002). Research on foci of identification shows that the smaller, tighter and more concrete the target of the identification, the stronger the associations with work attitudes and behaviours (e.g. team > multi-team system; Van Knippenberg & Van Schie, 2000). The cognitive 'anchoring and adjustment' heuristic shows that perspectives that are more socially distant are not fully reached and utilised due to the difficulty of incorporating them into decisions or judgements (Epley et al, 2004). Perspectives relatively more familiar to us, similar, learned, salient, and with a

greater shared experience base allow for greater accuracy and compromise (Preston & de Waal, 2002).

Thus, due to research suggesting the relative ease of understanding and acting on viewpoints when social distance is reduced, I propose that mean levels of inter-team perceived understanding in the sample will be significantly lower than mean levels of intra-team perceived understanding. For the same reasons, I also propose that inter-team perceived understanding will be too distal from intra-team outcomes to be directly significantly associated with them.

- *Hypothesis 1a: Intra-team perceived understanding is positively related to teams' perceived performance, morale, and helping*
- *Hypothesis 1b: Inter-team perceived understanding is significantly lower on average than intra-team perceived understanding, and is not directly related to team outcomes*

7.3.2 Intra-Team Perspective Taking and Elaboration as a Mediator for Performance

In this study, I also want to make the case that a team's levels of task information elaboration mediates between intra-team perspective taking and perceptions of performance, acting as an intervening team process, proximal to higher performance. Elaboration captures an important further correlate of perspective taking by explaining the team's problem of 'once we have taken perspectives and viewpoints on board, what do we do next?' Research has consistently found elaboration to be a mediator between workgroup diversity and performance (Homan et al, 2007, 2008; Kearney et al, 2009; Van Ginkel & Van Knippenberg, 2008).

Elaboration helps diverse teams to utilise their diverse perspectives and link them to performance via shared task representations (Van Ginkel & Van Knippenberg, 2008). In other words, the perspectives taken within a team become a shared source of information that can be further synthesised, evolved, and integrated for finding new, superior ways of proceeding with complex tasks. Elaboration is likely to encompass activities such as the utilisation of distinctive, previously unshared information, delegating based on skill complementarities, strengths and weaknesses, and the reconciliation of dialectically opposite views into higher-order wholes (Basseches, 2005; Oosterhof et al, 2009; Polzer et al, 2002; Stasser et al, 2000).

Thus I argue that elaboration represents further phases of task-relevant interaction, where, after a team has taken stock of its own perspectives, it proceeds to elaborate on them, pass them back and forth, and synthesise them into evolving, superior solutions, thus contributing to high levels of perceived performance. I don't propose elaboration as a mediator for outcomes of morale and helping. This is because elaboration has typically been defined around core task-related performances and finding solutions (Van Ginkel & Van Knippenberg, 2008). Morale and helping are much less task or data-driven than core goal-related, productive performance standards of the team. Morale and helping don't necessarily require as much task information, negotiation or coordination, and so are more likely to benefit directly from team perspective taking – the awareness, the sensitivity, and the cooperative and supportive tendencies it produces.

- *Hypothesis 2: Team elaboration mediates the positive relation between intra-team perceived understanding and perceived performance*

7.3.3 Inter-Team Perspective Taking as a Moderator of Intra-Team Perspective Taking Effects

Although I have proposed that inter-team perceived understanding will not directly impact outcomes, I do argue that it can positively relate positively to outcomes when combined additively with increasing intra-team perceived understanding. That is, the extent that a team understands external perspectives of other teams can moderate relations between its own perspective taking and team outcomes of performance, helping, and morale.

I propose that a general understanding of wider systemic issues and recurring points of view across one's own team and others leads a team to understand how best to help its own team to cooperate and function effectively.

In terms of strengthened associations with perceived performance, understanding the perspectives of other teams than one's own may yield useful information about best practice, innovations, and a healthy sense of goal-related competition. Teams may also perceive *inter-team interdependencies*; recognition of ways to mutually and accurately share resources and knowledge with other teams in other departments to complete tasks effectively. Many teams are typically parts of larger multi-team systems (MTS) (Marks, DeChurch, Mathieu, Panzer, & Alonso, 2005). Just

as single teams need to perceive interdependence among their own members' perspectives to perform effectively (Cohen & Bailey, 1997), so do multiple teams need to understand how they can perform together interdependently to enhance their contributions to the wider system (Mathieu et al, 2001).

Ships in the Navy comprise a multi-team system in that there are interdependencies between teams in different departments (e.g. certain engineering crews need to monitor and repair equipment as and when needed, so that warfare crews can use said equipment to engage in combat). Inter-team perspective taking is therefore important for teams to spot and understand the wider relational significance of their tasks (Grant, 2008). Perceived inter-team understanding helps create a sense of obligation to work to fulfil performance requirements in the wider system, and an improved meta-organising of the team's task designs around these interdependencies (Mathieu et al, 2001).

In terms of strengthened associations with helping, access to more perspectives across group boundaries means access to more diverse sources of influence, which in turn can provide many ideas about how our own actions can be of prosocial benefit to others (Grant, 2007; 2008; Stürmer & Snyder, 2010). If a team understands what its own members need *and* where other teams are coming from, it may be able to draw in coping resources across its boundaries, and call on extra relationships and information to support its members in their work (Ancona & Caldwell, 1992). In review, research on prosocial behaviour concludes that it is positively influenced by simultaneous identification with one's own group and wider perceived inclusivity within an organisational system of multiple groups and 'the greater good' (Penner et al, 2005). Given perspective taking's traditional, well-established links with prosocial behaviour, helping and cooperation (Batson, 1991; Galinsky et al, 2005), I expected that a team's general perceived understanding of itself and other teams simultaneously would additively combine to provide particularly cooperative helping norms, driven by the dynamic use of a wider source of social data.

In terms of strengthening relations with morale, theories of social comparison and social information processing are relevant to inter-team perspective taking's role (Festinger, 1954; Salancik & Pfeffer, 1978). Teams that understand the perspectives of related surrounding teams as well as their own are likely to compare the two and try to establish uniformity with the wider system – potentially by realising that many more groups of people are in the same boat (Festinger, 1954). There is also likely to be a

sense that the team can escape the blinkers of its own composition and place greater confidence in workplace support by comparing with other teams and realising ways of supporting people with lower confidence close to home. Morale is likely to stem from this stabilising of the social-informational reality of the team, the legitimacy of widely consistent perspectives, the team's mutual support with other teams, and positive attitudes that are shaped more favourably around the work environment (Cameron, Bright, & Caza, 2004; Salancik & Pfeffer, 1978).

In a performance-critical environment (like the military), a team needs to draw its morale from available psychological sources. In this sense the team can use the interplay of two sources – it can look to its own team for inspiration, whilst simultaneously understanding its social embedding with other teams and a relational appeal to the system at large. In terms of emotional/affective perspective taking, effective understanding and regulation of morale-related emotions across the team's boundaries is likely to bolster morale through mechanisms like broadening-and-building of action repertoires, and compassion organising (Dutton et al, 2006; Fredrickson, 2001). Teams can draw positive emotion from the broader sets of people they rely on if they acknowledge and understand useful, supportive outside linkages with their internal environment. This sense of connection will sustain each team's morale regarding what it can achieve under challenging workload conditions.

The overall reasoning for inter-team perceived understanding as a moderator is analogous to the 'dual identity' approach in social identity theory. This approach confirms that if teams simultaneously identify with their own team *and* the organisation at large, this is what reduces conflict the most and promotes supportive productivity in the teams, more so than identification with just one or the other (Richter et al, 2006). Organisational teams need to understand that they are distinctively meaningful in their own right, but at the same time need to periodically 'look up' to realise that they belong to a wider system, which can be inspiring, offer morale-related support, and vital information for improving coordinated performances (Dutton et al, 2006; Haslam et al, 2003). A good understanding of external perspectives can further hone, refine and build on a correspondingly good understanding of internal team perspectives.

Given that intra-team perceived understanding's relation with perceived performance is also hypothesised to be mediated by task elaboration, I propose that this is therefore a case of moderated mediation; moderated on both sides of the mediator by levels of inter-team perceived understanding. Specifically, a team will be able to

elaborate on its own perspectives more, and in turn link them more with improved performance perceptions, to the extent that it draws on more relevant external understandings of other teams. A team will generate more enriching fuel for elaborating on its own perspectives, transforming and linking them with performance by including other teams' perspectives into their representations. For the reasons stated above, these external perspectives are often meaningful, inspiring, and typically connected anyway – constituting an extra source of evidence, an additional situational reference point.

- *Hypothesis 3a: Inter-team perceived understanding moderates the positive relation between intra-team perceived understanding and team outcomes, the relationship being stronger under higher levels of inter-team perceived understanding*
- *Hypothesis 3b: Inter-team perceived understanding moderates the mediated links between intra-team perceived understanding, elaboration, and team perceived performance*

7.4. Method

7.4.1 Sample and Data Collection

The final sample consisted of 716 individuals working in 169 teams aboard 10 ships. Since the study was conducted at the team level of analysis, the sample size was therefore 169. Each ship was manned by approximately 240 personnel, and response rates per ship varied widely from 26 (11%) through to 138 (58%), due to the varying availability of personnel in such a large organisation. Ships were in one of three stages of their deployment or mission cycle – 1) refit (onshore and off active duty); 2) in a pre-mission 3-month training phase; or 3) out on an active 6-9 month deployment/mission. Three ships were in refit, two in training, and five out at sea on deployment. Surveys were administered face-to-face in paper format for two of the ships in the refit stage, and paper copies were mailed to one ship in refit and another in training. The other ship in training and the five ships on deployment received interactive electronic copies of the survey via email, which were completed and returned automatically to a database.

The study variables can be grouped into several categories, as shown in Figure 7.2: control variables, intra-team perspective taking, moderating/mediating team variables, and outcome variables. Each ship was comprised of six different functional

departments serving different aspects of ship maintenance and combat: weapons engineering, marine engineering, logistics, executive, aviation, and warfare. Warfare was the biggest department, typically with over fifty individuals and about ten teams, while aviation and executive were the smallest departments, typically with around five to fifteen individuals in only one or two teams. Thus the teams themselves were nested within these departments.

Each team had an identifiable name, and there were a few loosely overlapping authority figures in each department overseeing several teams. Every team aboard a ship can be perceived as interdependent with other teams and amongst its own members in the sense that the workflows are reciprocal and complex, with all teams continually relating their work back to the bigger picture of how to serve every other team in making up the ship as a whole. For example, logistics, executive, and the engineering departments provide administrative, support, and maintenance functions for each other and the warfare and aviation departments. Warfare and aviation teams depend on the support and maintenance functions so that they can provide other functions for the completion of a mission, including combat, reconnaissance, and emergency procedures.

Although it was a cross-sectional study, Figure 7.2 displays a basic regression scheme flow of causality similar to studies 1a and 1b of this thesis, and as implied by hypotheses 1-3 above in this chapter. The control variables represent a conceptual starting point – the structural environment and context of the system of teams. Intra-team perspective taking is antecedent to the intervening processes of mediating/moderating variables. Finally, the outcomes capture desirable emergent states and behaviours that closely affect the work outputs the team can produce.

As teams were nested in departments, I controlled for which department teams were in by including coded dummy variables in regressions. Although departments all involved teams performing relatively complex, interdependent tasks, they did vary considerably in terms of the content, equipment, and immediate environment of their work. I also controlled for team size (range: 2-16) for the same reasons as in study 2. Higher team sizes might create mixed effects in terms of the cognitive load of perspectives to be taken (Roßnagel, 2000), and the coordination and sharing of workflows (Amason & Sapienza, 1997; Cohen & Bailey, 1997). Finally, I controlled for the stage of deployment a particular ship was in (refit versus training versus out at sea), also using coded dummy variables. Military team unit outcomes often vary in curvilinear patterns over the course of an operation, and in general, teamwork organises

itself around major cyclic performance episodes (Bartone & Adler, 1999; Marks et al, 2001).

I didn't regard it as necessary to control for ship given that each ship was of the same type and the overall personnel structures identical or very close (using the same 'watch and station bill' to deploy specific numbers of personnel into specific teams and roles). This would also create a relatively unwieldy number of dummy variables to include in multiple regression models.

Further information on the teams and work environment are given below in the measures section and the descriptive analyses in the results section.

Figure 7.2 Blocks of all Study 3 Variables
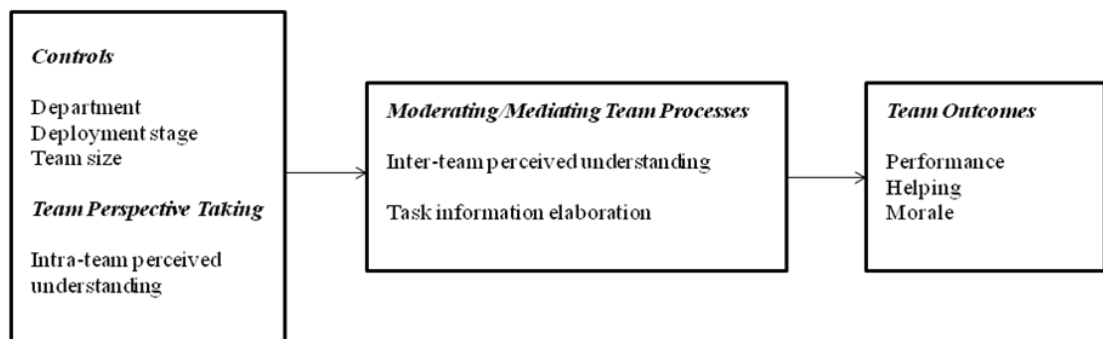
7.4.2 Measures and Factor Analyses

The 169 teams' scores on the six self-report measures (all measures except control variables) were subjected to a team-level confirmatory factor analysis (CFA) in MPlus, using maximum likelihood estimation and the item variance-covariance matrix. Two incremental fit indices for models are reported; the standardised root mean square residual (SRMR) and the comparative fit index (CFI). Recommended cut-off values indicating good model fit are less than 0.08 for the SRMR and greater than 0.95 for the CFI (Hu & Bentler, 1999). The CFI is recommended as most appropriate when working with relatively small samples (<250 cases), and the SRMR is recommended when using maximum likelihood as an estimation method (Hu & Bentler, 1998). The measurement model with the six expected factors was tested, as well as more parsimonious alternatives with one to five factors.

The results of these factor analyses are given below in Table 7.2. As can be seen from the table, a six-factor measurement model showed a good fit to the data, and a significantly better fit than multiple plausible alternative models, which typically failed

to meet the cut-off criteria for adequate model fit. In alternative models, collapsing across perspective taking scales, processes, or outcomes failed to provide adequate, improved, or parsimonious fit as measurement models. Overall, these analyses support the idea that each of the six factors is meaningfully distinguishable. The t-values of individual item loading parameter estimates for the six factors were also highly significant (p<0.001), further supporting the study's measurement model. Model modification indices suggested no cross-loadings that would improve the model fit by a significant amount (i.e. $\Delta\chi^2>10$). Thus the six team measures could be retained and used for the study.

Each of the measures is described further in the sections below. Unless otherwise stated, all scales used five point Likert response formats with the anchors 'Strongly Agree' and 'Strongly Disagree'. Typically the scales used were three or four item versions of established measures, and to keep space to a premium, the items that had loaded highest on the factors in pilot research on other projects had been selected for inclusion.

Table 7.2 Team-Level Confirmatory Factor Analyses of all Study 3 Measures

Model	Chi-square, df	CFI	SRMR
6 factors	371.82**, 174	0.946	0.046
4 factors (all three outcomes combined)	1011.75**, 183	0.730	0.089
5 factors (intra-team and inter-team PT combined)	446.18**, 179	0.906	0.051
5 factors (moderator and mediator combined)	501.64**, 179	0.895	0.069
2 factors (all processes and outcomes combined)	1217.24**, 188	0.665	0.101
1 factor	1266.15**, 189	0.650	0.103

N = 169
*p<0.05; **p<0.01

7.4.2.1 Controls

The six department variables were defined as: weapons engineering, marine engineering, logistics, aviation, warfare and executive. These six response choices were

converted into five dichotomous dummy variables for entering into multiple regression analyses, with executive department as the reference category.

The three ship deployment variables were defined as: refit (not out at sea), training (training at sea, preparing for operation), and on deployment (out at sea on an operation). These three values were converted into two dichotomous dummy variables for entering into multiple regression analyses, with 'on deployment' as the reference category.

Team size was a straightforward continuous variable for how many members were in the team.

7.4.2.2 Intra-Team and Inter-Team Perceived Understanding

The team perceived understanding items were written specially for this study. Two items formed an intra-team scale, and two other items were inter-team in focus. The question stems for these items read: 'Do you know how your own team [other teams on your ship] THINK at work? (e.g. their priorities, language, knowledge, and the skills they use)' and 'Do you know how your own team [other teams on your ship] FEEL at work? (e.g. their moods and attitudes). For these general intra-team and inter-team perspective taking scales, the 5 point response anchors were 'Not at all' and 'A great deal'.

Intra-team perceived understanding showed satisfactory reliability ($\alpha = 0.79$), as did inter-team perceived understanding ($\alpha = 0.76$).

7.4.2.3 Team Task Information Elaboration

Elaboration showed satisfactory reliability ($\alpha = 0.87$). The scale consisted of three items derived from prior research on the construct (Homan et al, 2007; Van Ginkel & Van Knippenberg, 2008). The items used were 'team members often talk about a task so that others think differently about it', 'team members often say things that lead the team to new ideas', and 'team members exchange a lot of information about a task'.

7.4.2.4 Team Outcome Variables

Team perceived performance showed satisfactory reliability ($\alpha = 0.94$). The scale consisted of five items asking respondents to describe their team's performance in terms of: level of performance, achieving goals, meeting deadlines, productivity, and meeting expected standards. The scale had response anchors of 'well below

requirements', 'below requirements', 'at requirement', 'above requirement', and 'requirements greatly exceeded'. The items were taken from previous work on team performance (Gibson, Zellmer-Bruhn, & Schwab, 2003; Stewart & Barrick, 2000).

Helping behaviour showed satisfactory reliability ($\alpha = 0.82$). The scale consisted of three items, drawn from previous work on citizenship behaviour in teams, also used in study 1b of this thesis (Podsakoff et al, 1997). The items used were 'team members tend to help each other if they fall behind on their work', 'team members tend to encourage other team members if they are down', and 'team members try to act like a peacemaker if other members have disagreements'.

Morale showed satisfactory reliability ($\alpha = 0.94$). The scale consisted of six items, developed out of ongoing naval research into the construct. Example items included 'my team can persist and take action under any difficult situation', 'my team has the courage to work through any physical or mental problem', and 'when faced with fear or survival, my team will have a strong fighting spirit'.

7.4.3 ICC and RWG Agreement Indices for Team-Level Study Constructs

The next goal for all the self-report measures was to demonstrate that it was statistically appropriate to aggregate them to the team level for the study – i.e. show that they clustered meaningfully within teams. A team level construct needs to show sufficient within-group agreement ($r_{wg} > 0.70$), i.e. the degree to which the ratings from individuals in a group are interchangeable (Bliese, 2000). A team level construct also needs to show sufficient reliability, i.e. the degree to which the individual group members' ratings are consistent in their proportions (Bliese, 2000). This involves demonstrating intraclass correlation coefficients ICC1 and ICC2 values above zero. The ICC1 demonstrates that a proportion of the variability in the construct in question is due to group membership. The ICC2 shows that the groups can be reliably differentiated by their mean values on the construct. I also conducted one-way ANOVAs on all the team study variables, with team as the grouping variable, to show that there were significant between-team differences - another justification for team-level aggregation and way of capturing what the ICC1 is showing (Bliese, 2000).

This was particularly important for the team perspective taking scales, to replicate the finding that perspective taking functions at the team level, proposed initially in Study 2. As seen in Table 7.3 below, the indicators for inter-rater agreement (r_{wg}) and group-level reliability (ICC1 and ICC2) all met the appropriate criteria for

aggregation for all constructs. For the ICCs, the confidence intervals show that the values are greater than zero, and the r_{wg} values for the teams meet the criteria of 0.70. Finally, the one-way ANOVAs all showed significant between-team differences.

Table 7.3 ICC and RWG Agreement Indices for Team Level Constructs

Construct	r_{wg} Mean	ICC(1)	95% CI (lower)	95% CI (upper)	ICC(2)	95% CI (lower)	95% CI (upper)	Team ANOVA (F)
Perceived understanding own team	0.71	0.05	0.03	0.07	0.25	0.22	0.28	1.32*
Perceived understanding other teams	0.70	0.04	0.02	0.06	0.18	0.16	0.20	1.20*
Elaboration	0.74	0.06	0.04	0.08	0.29	0.25	0.32	1.40**
Helping	0.78	0.04	0.02	0.06	0.21	0.18	0.24	1.26*
Morale	0.79	0.10	0.08	0.13	0.41	0.37	0.44	1.69**
Performance	0.83	0.11	0.09	0.14	0.44	0.41	0.47	1.78**

N = 169 teams
*p<0.05; **p<0.01

7.4.4 Analysis Strategy

Several analytical steps were designed to test study hypotheses 1-3. They are as follows.

7.4.4.1 Correlations and Descriptives

A correlation matrix was formed using the study variables, and the Pearson's R correlation coefficients examined as initial evidence of significant relationships. The means and standard deviations for all study variables were also computed.

7.4.4.2 Hierarchical Regression Analyses with Controls

To test the main effects in study hypotheses 1a and 1b, hierarchical regressions were carried out. The control variables were included at the first step of each hierarchical regression, and the predictors of interest at the second step. The regression results tables show hierarchical model steps in each column: step 1 R^2, then step 2 R^2 (cumulative total including step 1) and step 1-step 2 ΔR^2, etc.

7.4.4.3 Moderated and Mediated Regression Analyses

The mediation test (hypothesis 2) was carried out using hierarchical regressions (with controls) and a Sobel test, in conjunction with Baron and Kenny's (1986) requirements for mediation, involving the links between independent variable, mediator, and dependent variable.

The moderated regressions (hypothesis 3a) were carried out with mean-centred predictors. Cross-product interaction terms were entered at the final third step, after controls and main effects had been entered. Where interactions were significant, simple slope tests were also reported to identify any significant differing gradients and directions at 'high' and 'low' levels of the moderator (+/- 1 SD away from the mean). For non-significant interactions, simple slopes were not computed, as it was self-evident that the slopes would not significantly differ. Note that wherever 'NA' appears in a moderator results table, it refers to the fact that given that the product term was not significant, there was no interaction, and so simple slopes were not computed. No interaction means that the main effects did not significantly differ in their slope and so it is 'not applicable' here to pursue a simple slope test further, as it adds little or no new information. Significant moderations were also captured by simple slope graphs to aid interpretation.

The moderated mediation stated in hypothesis 3b was tested by using an SPSS macro designed to test for the presence of conditional indirect effects, using extensions of the simple slopes method and bootstrapping to assess the sampling distribution (Preacher, Rucker, & Hayes, 2007). These tests show whether the indirect effects between independent variable and mediator, and mediator and dependent variable vary significantly according to levels of the moderator.

7.5 Results

7.5.1 Descriptives and Correlations

Table 7.4 shows the team-level means and standard deviations for all study variables. Team size ranged from 2-16 members. Table 7.4 also shows one-way ANOVAs comparing all the teams on all the study variables across departments, deployment stages, and ships. This shows that perspective taking varies situationally throughout an organisational system according to social context and structure, also justifying the choice of control variables.

As can be seen from the table, there were significant differences on many of the study variables according to these wider groupings. The final column of Table 7.4 shows the results of a paired-sample t-test comparing mean levels of intra-team versus inter-team perspective taking (hypothesis 1b). The paired-sample t-test is significant, and as indicated by the mean values, intra-team perceived understanding is higher on average than inter-team perspective taking. This supports hypothesis 1b, and is as expected from the increased social distance and lower familiarity likely to be associated with other teams' perspectives.

In terms of the overall sample of individual respondents, demographic characteristics were as follows. Junior ranking officers constituted a majority in the sample (553 or 78%), as did men (546 or 88%). The age of respondents ranged from 17-50 (mean 26.61, SD 6.68), with the majority of the sample being in their 20s and 30s. Team tenure ranged from 1-5 years (mean 1.57). Cultural information was not collected directly for the sample, but inspection of general personnel records suggested a very strong white British majority, perhaps unsurprising given that the organisation in question provides a highly historical, nationalised service.

Table 7.4 Final Study 3 Scales: Means, Standard Deviations, and Systemic Differences

Construct	Mean (SD)	ANOVA (F) Department	ANOVA (F) Ship	ANOVA (F) Deployment stage	Paired samples t test: PT for own team versus other teams
Team size	4.24(2.84)	NA	NA	NA	
Elaboration	3.43(0.49)	2.96*	1.18	2.70	
Perceived understanding own team	3.66(0.48)	2.58*	2.09*	4.86**	18.34**
Perceived understanding other teams	3.02(0.44)	1.04	1.60	4.63*	
Helping	3.78(0.46)	1.08	2.09*	3.37*	
Team morale	3.84(0.51)	3.11**	1.71	3.69*	
Performance	3.62(0.44)	6.21**	1.18	2.77	

N = 169 teams
NA: Not applicable as teams organised in the same way across ships
*$p<0.05$; **$p<0.01$

Table 7.5 below shows the inter-correlations between the final set of all the team-level study variables. The correlation matrix shows significant intercorrelations between team perspective taking, elaboration and team outcomes. However, controlled

hierarchical multiple regressions allow these associations to be tested with the proper rigour in the context of a controlled model, as well as allowing for testing of moderations and mediations. It is these analyses which I present in the next sections below.

Before running any regression analyses, the data was checked to see that the following assumptions were met: linearity, normality in distributions of dependent variables, homoscedasticity, and lack of multicollinearity between predictors (Tabachnick & Fidell, 2001). These assumptions were checked in the data through further examination of frequency distributions, skewness statistics, residual scatterplots, and correlation coefficients. Univariate and multivariate outliers (with standardised residual of > +/- 2.5) were also typically discarded to preserve the power of the statistical analyses.

Multicollinearity didn't appear to be a significant concern for any of the study predictors. The highest correlation between predictors was between the intra-team and inter-team perceived understanding variables, and at 0.54, this was still relatively moderate.

Table 7.5 Study 3 Variables Intercorrelations Matrix

	1	2	3	4	5	6	7
1. Team size							
2. Elaboration	-.09						
3. Perceivd underst (own team)	-.03	.40**					
4. Perceivd underst (other teams)	.01	.33**	.54**				
5. Helping	-.10	.51**	.49**	.30**			
6. Morale	.00	.54**	.56**	.37**	.51**		
7. Performance	.01	.58**	.51**	.32**	.44**	.69**	

N = 169 teams
* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

7.5.2 Intra-Team Perceived Understanding Main Effects on Team Outcomes, and Elaboration as Mediator for Performance

Table 7.6 below shows regression results relating to hypotheses 1a, 1b, 2, and 3a. I report whether the hypotheses are supported for each of the three team outcomes in turn.

Firstly, in terms of the team performance outcome, hypothesis 1a is supported: intra-team perceived understanding is significantly positively related to team perceived performance. Hypothesis 1b is also supported: inter-team perceived understanding is not directly significantly related to perceived performance. Hypothesis 2 is supported; there is a significant indirect, mediated effect between intra-team perceived understanding and performance via elaboration, as indicated by the Sobel test in Table 7.6. However, the mediation is partial given that the direct relation of intra-team perceived understanding with perceived performance has only dropped slightly in magnitude, and remains significant. Hypothesis 3a is not supported for performance; the relation of intra-team perceived understanding is not moderated or strengthened by levels of inter-team perceived understanding.

Secondly, in terms of the team helping outcome, hypothesis 1a is supported: intra-team perceived understanding is significantly positively related to team helping. Hypothesis 1b is also supported: inter-team perceived understanding is not directly significantly related to team helping. Hypothesis 3a is supported here: the positive relation of intra-team perceived understanding with helping is significantly strengthened under higher levels of inter-team perceived understanding. The form of this interaction is shown graphically in Figure 7.3 below. Intra-team perspective taking appears to relate even more strongly to team helping when supported by higher perceived external understanding concerning other teams.

Thirdly and finally, in terms of the team morale outcome, hypothesis 1a is supported: intra-team perceived understanding is significantly positively related to team morale. Hypothesis 1b is not supported for this outcome: inter-team perceived understanding does in fact appear to be directly positively related to team morale. Hypothesis 3a is not supported regarding this outcome either; the positive relation between intra-team perceived understanding and morale is not significantly moderated by inter-team perceived understanding.

Figure 7.3 Inter-Team Perceived Understanding Moderating the Positive Relation Between Intra-Team Perceived Understanding and Team Helping
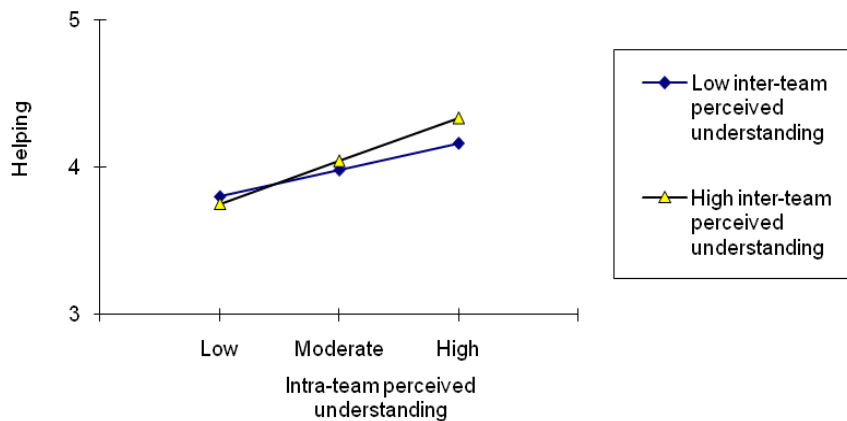
7.5.3 Intra-Team Perceived Understanding and Team Performance: Moderated Mediation Involving Inter-Team Perceived Understanding as Moderator, Elaboration as Mediator

The Preacher et al (2007) procedure for moderated mediation revealed that neither the interaction between intra-team perceived understanding and inter-team perceived understanding was significant ($\beta = 0.02$, p>0.05), nor the interaction between elaboration and inter-team perceived understanding ($\beta = -0.04$, p>0.05). Across levels of the inter-team perceived understanding moderator, the indirect effect of intra-team perceived understanding on team performance via elaboration remained equally significant 1SD below the mean level of inter-team perceived understanding ($\beta = 0.11$, p<0.05) and 1SD above the mean level of inter-team perceived understanding ($\beta = 0.12$, p<0.05). Full models and output for this analysis are given in the Appendix.

Thus hypothesis 3b is not supported: levels of inter-team perceived understanding do not significantly moderate the mediated relations between intra-team perceived understanding, team elaboration, and team perceptions of performance.

Table 7.6 Intra-Team Perceived Understanding Relationships with Team Outcomes, Mediated by Elaboration, Moderated by Inter-Team Perceived Understanding

	Elaboration Step 1	Elaboration Step 2	Performance Step 1	Performance Step 2	Performance Step 2 (Mediated)	Performance Step 3	Helping Step 1	Helping Step 2	Helping Step 3	Morale Step 1	Morale Step 2	Morale Step 3
Dept (1)	0.02	-0.01	-0.64	-0.93*	-0.99**	-0.99**	0.13	-0.15	-0.14	-0.60	-0.95*	-0.94*
Dept (2)	-0.03	-0.05	-0.73	-0.99**	-0.99**	-0.99**	0.04	-0.18	-0.20	-0.66	-0.99**	-0.99**
Dept(3)	-0.08	-0.19	-0.40	-0.66*	-0.67*	-0.66*	0.10	-0.14	-0.15	-0.57	-0.94**	-0.93**
Dept(4)	0.06	0.01	-0.01	-0.23	-0.27*	-0.27*	0.04	-0.10	-0.11	-0.04	-0.31*	-0.31*
Dept(5)	-0.25	-0.26	-0.78	-0.99**	-0.99**	-0.99**	0.03	-0.21	-0.22	-0.70	-0.99**	-0.99**
Deployment stg 1	-0.18*	-0.07	-0.06	0.03	0.08	0.08	-0.21*	-0.13	-0.11	-0.17	-0.05	-0.04
Deployment stg 2	-0.09	-0.08	-0.10	-0.10	-0.05	-0.05	-0.09	-0.06	-0.04	-0.08	-0.07	-0.06
Team size	-0.07	-0.04	-0.01	0.02	0.04	0.05	-0.11	-0.07	-0.04	-0.04	0.02	0.03
Perceived understanding (own team)		0.27**		0.41**	0.30**	0.30**		0.45**	0.51**		0.44**	0.45**
Perceived understanding (other teams)		0.20*		0.13	0.04	0.04		0.03	0.06		0.17*	0.17*
Elaboration					0.46**	0.46**						
Intra-team ×Inter-team understanding interaction						0.03			0.17*			0.05
R^2	0.111*	0.257	0.149**	0.384	0.542	0.543	0.058	0.257	0.279	0.091	0.360	0.362
ΔR^2		0.146**		0.235**	0.393**	0.001		0.199**	0.022*		0.269**	0.002
Sobel test (z)					2.75**							
Simple slope - high						NA			0.64**			NA
Simple slope - low						NA			0.39**			NA

n =162-169 teams   **p<0.01; *p<0.05 (two-tailed).

7.5.4 Summary of Findings and Hypotheses Supported

Revisiting the initial model and hypotheses from the introduction (Figure 7.1), and taking the hypotheses briefly in turn:

- Intra-team perceived understanding was significantly positively related to team perceptions of performance, helping, and morale, supporting hypothesis 1a. Inter-team perceived understanding's mean levels were significantly lower than intra-team, and it was not directly positively related to performance or helping, supporting hypothesis 1b. However, unexpectedly, inter-team perceived understanding did show a significant positive association with morale, so hypothesis 1b is not supported for this outcome.

- Intra-team perceived understanding had its link to perceived performance partly explained by team elaboration, supporting hypothesis 2. However, the direct effect of intra-team perceived understanding also remained significant.

- Inter-team perceived understanding moderated the relation between intra-team perceived understanding and team helping, but not perceived performance or morale, supporting hypothesis 3a for one out of the three outcomes. Hypothesis 3b is not supported: the indirect, mediating effect of elaboration did not vary across levels of the proposed inter-team perceived understanding moderator.

7.6. Discussion

The main take-home messages of the study are as follows:

- A perspective taking focus inside one's own team that is perceived to be effective is an important positive correlate of perceived team performance, helping and morale. An effective perspective taking focus outside the team is lower than that inside, and only directly positively related to morale.

- How much a team elaborates on the task information held by its members partially explains how effective intra-team perspective taking relates to better performance, although some of the time, effective perspective taking will not need to be elaborated, and can be directly related to perceived performance.

- The association between effective intra-team perceived understanding and helping can be further enhanced by higher levels of inter-team perceived understanding. Relations with performance and morale don't seem to be boosted

by additional effective external understanding in the same way. Inter-team perceived understanding also doesn't affect the elaboration mechanism linking intra-team understanding and perceived performance.

The main contributions of this study, over and above prior research and other studies in this thesis are as follows:

- I further the situational approach of team perspective taking by showing that 'own team' versus 'other teams' are different contextual targets, the understanding of which plays different roles in the team. The study also shows how the perceived effectiveness or accuracy of team perspective taking positively relates to self-reported prosocial, performance-based team outcomes.
- I show that elaboration is one mechanism that explains in part how effective intra-team perspective taking positively relates to perceived performance. Perceived inter-team understanding is one moderator or contingency that boosts intra-team perspective taking's positive relation with helping. Together, they highlight how perspective taking relations with perceived team outcomes are affected by information use and targets external to the team.

7.6.1 Intra-Team versus Inter-Team Perceived Understanding and Team Outcomes

This study was primarily about team effectiveness, and confirmed that effective intra-team perspective taking is a positively related to perceptions of effective team outcomes, where inter-team perspective taking generally is not. Inter-team perceived understanding was also significantly lower on average than intra-team understanding. As with study 2 of this thesis and diversity dimensions, this confirms a situational approach to perspective taking where different targets or sources of perspectives vary meaningfully in how they are comprehended and relate to team outcomes.

The finding that inter-team perspective taking levels were on average significantly lower than intra-team levels supports the idea of an 'anchoring and adjustment' heuristic, where effective understanding of social targets suffers from increasing social distance and abstraction (Epley, 2008; Gehlbach, 2004). Ideally, organisations should therefore acknowledge the accuracy/effectiveness and/or effort/commitment required for a target when trying to judge and/or justify perspective taking acts appropriately.

This study shows that perceptions of understanding the thoughts/feelings of one's own team can serve as a cognitive 'anchor' for mapping onto corresponding team outcomes in a very central valuable way. It supports the general finding from social identity theory that one's own workgroup is a tightly focused target for the self-concept and a prototypically influential work identity (Van Dick et al, 2004). Other forms or targets of perspective taking are probably less intuitive or tangible to workers and may require more additional adjustments and processing (Epley et al, 2004). The perceived understanding measure used in this study reemphasises important perspective taking distinctions for organisational research. There are distinctions between certain stakeholder, client, or supplier perspectives that take precedence (e.g. Parker & Axtell, 2001). There are also distinctions concerning the scope of a perspective taking measure, in terms of bottom-up effects aimed at broader targets, top-down effects aimed at narrower targets, or horizontal effects aimed at diverse parallel targets at the same level of analysis.

Intra-team perspective taking was found to be positively related to perceived team performance; a team's perceived ability to exceed requirements, in terms of deadlines, productivity, goals, and standards (Gibson et al, 2003). In contrast with constructs like mental models and transactive memory that deal with existing cognitive divisions of labour, team perspective taking is likely to reflect more dynamic, social possibilities surrounding superlative task performances (Huber & Lewis, 2010). This study builds on study 1b of this thesis by suggesting that as well as well-intentioned project team members, whole organisational teams can be mobilised to effectively understand their possible role configurations, information gaps, and opportunities for learning (Cronin & Weingart, 2007; Humphrey et al, 2009). Under this view, teams are open systems with members that can continually adapt and update themselves on each others' evolving perspectives (Smith & Gemmill, 1991). The finding also partially replicates previous individual level research (Parker & Axtell, 2001), linking perspective taking to overall team performance, albeit perceived performance only.

The intra-team perceived understanding measure included references to affect (moods and attitudes) as well as cognition. Effective emotional regulation experiences in the team may help to build emotional intelligence, which has been shown to improve performance, particularly as compensation when cognitive ability is lower (Côté & Miners, 2006). If a team can effectively understand and reflect on its emotional perspectives, it will likely be able to appropriately allocate and develop task resources

around emotion regulation to ensure superior performances too (Dutton et al, 2006; Fredrickson, 2001). Teams are likely to have a more refined shared knowledge about how to acknowledge and manage collective positive and negative feelings.

Intra-team perspective taking was found to be positively related to team helping; the shared tendencies of the team to encourage, support, and maintain agreeable relationships. As expected, teams that share perceptions of an effective understanding of their internal cognitions and emotions are likely to be more adept at looking out for their members' welfare. These teams are likely to have members behaving more like full-time democratic 'citizens' rather than temporary 'tourists' (Gurin et al, 2002). Teams high in perceived understanding might be more articulate concerning clear goals for understanding strengths, weaknesses, legitimate needs, and situational pressures that forge linkages with helping behaviour. Team perspective taking may also be linked to prosocial behaviours beyond those measured here; including back-up behaviours, advice sharing and peer mentoring (Porter et al, 2003; Ragins, 1997). As the current study shows, if a team can understand its needs for support, it seems likely to relate to altruistic impulses for helping. In other words, to comprehend the possibility to help at relatively little cost to oneself, and to understand the value of helping to the welfare of the team, mentally and emotionally, creates a more meaningful obligation to do so (Batson et al, 2007; Graziano et al, 2007).

Intra-team perspective taking was also positively related to perceptions of team morale; the courage of the team to persist in a motivated way with its work tasks, even when situations appear particularly dangerous, high-risk, and/or uncertain. Perceived understanding within the team is likely to relate to team spirit and morale via a shared knowledge that team members will discuss difficult issues openly and constructively, can place trust in one another to perform appropriately, and can quickly make sense of challenging issues by effectively representing viewpoints (Edmondson, 1999; Sonenshein, 2007; Williams, 2007). An interesting, unexpected finding here was that *inter*-team perceived understanding also positively directly related to morale.

This suggests that a team's boundary spanning and external perspective taking focus may be particularly important during high-risk, uncertain, and pressured scenarios, where additional morale is needed. It may well be that during these scenarios team boundaries are drawn more widely to include other neighbouring teams, these boundaries consolidated, and ambassadors brought together to share information and

relay confident messages more directly between teams (Ancona & Caldwell, 1992; Yan & Louis, 1999).

In support of this, in the naval teams studied here, in difficult contexts (i.e. combat/warfare) where 'courage under fire' was required, teams would often temporarily fuse at the boundaries in order to perform critical functions against the shared backdrop of the 'common enemy' (e.g. putting out a fire, fixing and firing weapons). There were also various divisional structures (e.g. mentoring and professional development) that transcended team boundaries. These temporary stretches outside of the team may provide inspirational inter-team understanding that directly sustains the team of origin, keeping spirits high during difficult times, as team members understand that other teams in the 'bigger picture' are performing interdependently. In short, greater perceived understanding of other teams relates to social resources like morale directly. Teams potentially hold each other in high regard, setting standards and complementary identities that can be positively relied upon under pressure (Dutton, Roberts, & Bednar, 2010).

A final point in this section is to recognise that the other studies in this thesis look at perspective taking *motivation* indicators; the efforts expended to frame and understand team differences in supportive, accommodating ways. This study goes one step further by showing that actual perceived *understanding* or *effectiveness* positively relates to corresponding perceptions of team performance. The degree to which a team reports knowing more about the thoughts and feelings of its members outlines a more analytical aspect of team perspective taking. The focus of the previous studies was the motivation to accommodate difference and be curious about seeking value in it. This study shows that it is also important that a team perceives that it knows something about its perspectives; positively associated with perceptions of coordinated performances, providing help when and where needed, and taking spirited comfort in social abilities or resources when facing particular challenges.

7.6.2 Inter-Team Perceived Understanding and Team Elaboration as Processes That Further Support and Explain Intra-Team Perceived Understanding Relations

Regarding the main effect relations of intra-team perceived understanding just described, the current study found some evidence identifying an important supportive mechanism and a contingency. Task information elaboration partly explained team

perspective taking's relation with perceived performance, and inter-team perceived understanding positively strengthened its relation with helping, acting as a moderator.

Firstly, team elaboration was conceptualised and confirmed as a sort of finishing mechanism, explaining in part how the intra-team form of perspective taking was translated into perceptions of superior performances. Elaboration captures an important phase of any perspective taking process – the ability to take diverse sources of information, exchange them round the group, and come up with novel, transformed solutions that make valuable use of the originally understood perspectives. Most importantly, elaboration captures perspective taking in full motion – people exchanging and influencing ideas, potentially also forging new perspectives. The findings of this study replicate and extend prior work showing that elaboration is a mechanism helping groups to find task-relevant value in their diversity and enhance joint decision-making and task performances (Homan et al, 2007; 2008).

This finding emphasises the importance of larger cycles of perspective management – perceived understanding, elaboration, performance, and then the continuing questioning and evolution of surviving perspectives. It may depend how long groups are together, but over time, groups will face challenges requiring them to take stock and manage their perspectives, elaborate on them, and synthesise new, future-oriented ones for better facing upcoming challenges (Boland & Tenkasi, 1995). Laboratory work has made use of videotape and behaviour coding methodology to identify some of the elaboration behaviours likely to be at work in this study (e.g. mentioning and reacting to critical pieces of information, combining them and making new conclusions; Van Ginkel & Van Knippenberg, 2008).

Thus teams should not just try and take perspectives alone, but also engage with some of these behavioural follow-throughs captured by elaboration. Focus groups and encounter groups offer certain formats whereby teams can practise such elaboration behaviours in supportive ways that lead to new understandings (Egan, 1970). Exercises around uncovering valuable 'hidden' information, discovering wise balanced solutions, disclosure and/or creative thinking can all also help teach teams the value of elaboration (Johnson, 2000; Stasser et al, 2000; Sternberg, 1995).

In spite of all this, it is important to recognise that in the analyses, the direct relation between intra-team perspective taking and perceived performance remained significant, the indirect effect of elaboration only explaining how part of it occurs. The remaining direct effect may be subject to other key perspective-processing mechanisms

of delegation, conflict management practices, open communication, influence tactics, and feedback seeking.

On the other hand, there may be a legitimate direct effect of intra-team perceived understanding as well. There may be times when team perspectives require no further elaboration but are directly linked with performance, or represent a rewarding performance end in and of themselves. For example, if a team completes some training or job rotation that enhances perceived team understanding, this may directly relate to perceived performance, allowing for an improved sense of coordination and productivity.

Secondly, inter-team perceived understanding was also shown to be a moderator in strengthening the relation between intra-team understanding and team helping, ostensibly by using awareness of the wider system. Thus simultaneous effective perspective taking for multiple targets relates to the highest prosocial benefits. The finding offers support for the idea that team prosocial behaviour can be modelled and feed widely from broader, systemic patterns of cooperation, volunteering and citizenship (Penner et al, 2005).

Other teams are likely to provide moral perspective taking points of reference that can guide issue representation and ethical justifications for altruistic helping behaviours (Sonenshein, 2007). This finding speaks to the notion that fostering inter-group perspective taking may play a key role in legitimating effective altruistic agendas in organisations/societies at large (Farsides, 2007). Helping may be a particularly contagious, inspiring, analogous, and easily generalisable behaviour that can be compared and learned across teams' perspectives. Internal and external perspective taking are likely to interact through team processes of self-perception and social comparison (Bem, 1967; Festinger, 1954). Teams may look at other teams and reason 'they're doing that, we could also be doing that; why aren't we doing the same? Let's do it'. In behavioural matching what is particularly important is the relevance; helping behaviours may be particularly morally inspiring across teams because they are typically broadly relevant and compatible with a positive self-image (Cameron et al, 2004; Goldstein & Cialdini, 2007).

Understanding other teams in combination with one's own team contributes to a sense of the 'greater good' and the embedded social value of helping in the system. It helps to give team workers a sense of how part of their job role can be having a beneficial effect on others (Grant, 2007; 2008). Other teams may provide a fresh

perspective on standards for helping relationships than can be easily integrated into the host team's ethos and understanding. Finally, this finding supports the general social identity theory extensions of superordinate categorisation and dual identity (Haslam et al, 2003; Richter et al, 2006). Teams engaging in the highest levels of helping are likely to be simultaneously identifying with their own team and the over-arching superordinate structure of the entire multi-team system around them. Teams can reflect on overall vision whilst trading virtuous behaviours with other teams to make their own. This finding also adds to a growing body of empirical work on multi-team interdependencies and effectiveness gains for teams working closely together (De Church & Marks, 2006; Marks et al, 2005).

It's important to note that inter-team perceived understanding unexpectedly failed to moderate or strengthen relations between intra-team perceived understanding and performance, morale, or the mediated indirect performance effect via elaboration. In contrast to helping, it may be that a team's core task performance is a very exclusively internal affair, both in terms of understanding perspectives directly, and elaborating on them. As mentioned in the introduction to this study, it is possible that inter-team perceived understanding can be distracting and draining in terms of cognitive load, both factors that will influence the overall perspective taking process (Gehlbach, 2004; Roβnagel, 2000). In addition, it may be that the moderating effect is more delicate and depends on specific interdependencies between teams and their tasks, as well as the nature of boundaries and distances involved between particular pairs of teams (Richter, Scully, & West, 2005). The relationships observed probably also depend on how broadly perceived 'team performance' is defined.

Research needs to address very explicitly the extent to which teams define their performances cross-functionally in practice (Gittell, 2005). Some teams may blur their internal and external environments more than others in certain circumstances, whilst others may totally ignore external cues from other teams because they are not rewarded for it. Teams in this study might have perceived performance within their own team according to different latitudes. For example, some teams may see it as part of their remit to actually lead other teams, improving coordination and performance for those surrounding teams (De Church & Marks, 2006). In any case, overall, performance seemed to be relatively more intractable and internally separatist in comparison with the more dynamic, socially permeable, integrative finding for helping.

Possibly the reason team morale didn't relate to an intra- by inter- team perspective taking interaction was because of its unexpected direct relation with inter-team understanding. Morale appears to be a state that when stimulated externally, does not need to interact with internal perspective taking. This makes intuitive sense – it may be enough for teams to simply understand how other teams are doing their jobs to directly spur them on and motivate them to get on with their own work, without any need to synergise that with internal understanding. Other teams may be understood as coming from very different angles to a team's own internal perspectives, but still doing their part, and this can be a direct source of confidence and courage during an otherwise challenging time.

In sum, the idea of combining a team's internal perspective taking with an external focus appears to be related to high prosocial activity. Teams do not exist in social vacuums, and most teams in complex diverse systems will need to seek to use the surrounding system to their advantage and as to how they make sense of their work (Weick, 1995). For team performance, it may only be beneficial to integrate and elaborate information inwards from the outside where the rationale for doing so is carefully supported by clear inter-team interdependencies, broad performance definitions and inter-team exchanges (Richter et al, 2005). In the case of morale, no internal connections or synergies need to be made, but an independent external focus on other teams by itself appears to be enough to boost morale. Thus it may be beneficial for morale if teams understand and experience some of the significant work other teams do, without necessarily needing to worry about how it interfaces with their own perspectives in too much depth.

In general, where possible, teams can craft more intrinsically motivating meanings and maintain more effective outcomes for their work via knowing about surrounding targets to various degrees. This enables teams to redesign their own tasks in more inspiring, effective terms regarding how they serve the diversity of a wider system (Ashforth & Kreiner, 1999; Grant, 2008; Wrzesniewski & Dutton, 2001).

7.6.3 Practical Implications

The study has three main practical implications that are briefly summarised below.

Firstly, teams typically don't exist in a social vacuum, and so wider interdependencies and viewpoints should be assessed by managers. Teams have a

capacity for thoroughly understanding their cognitions and emotions and those of other teams, which relates to perceived performance, helping, and morale. Stakeholder analyses and sketching out networks and/or cognitive maps of teams and units, internally and externally, should provide a feel for the scope of boundaries and perspective taking spread. It is likely that perspective taking will start very close to home with close relationships, elaborations, and a general inward within-team focus – but teams can spread their focus outwards, and should be supported in doing so where beneficial. Practices might include: boundary spanners, cross-training, broader performance measures, relationship-building/contact events. The limits of perspective taking need to be carefully managed – some teams may have greater 'reach' than others; some may face trade-offs and not need to be distracted; others may be isolated and need to be integrated more closely with other teams to boost their morale or to learn more about helping behaviours.

Secondly, managers and team workers need to consider team processes that support the links between intra-team perspective taking and team effectiveness. In part, a team translates its perspectives into positively perceived performance by synthesising them and elaborating on them, coming up with new ways of working and evolving task representations. Thus teams need to be given time, acknowledgement, and training for demonstrating elaboration behaviours, producing task information sharing outputs, and linking changes and discussions to performance 'ideas'. For supporting helping and morale, HR practices external to the team, including inter-team rewards, training, and feedback can help engender a perspective taking focus out to the boundaries of teams to enhance their learning, modelling and confidence in support from other, interdependent teams. To the extent that teams can be supported in juggling a focus on perspectives inside and outside, it will allow them to build a bigger picture view and boost levels of helping/citizenship behaviour.

Finally, the study's findings generalise practically across team-based contexts, but especially apply to those which have multiple teams organised into a wider system and with differing perspective boundaries to focus on – e.g. universities, government departments, healthcare, airlines, R&D departments, and manufacturers-suppliers. Collectively, the study findings speak to the inventory of perspective-related information teams try to understand about themselves and other teams (priorities, language, knowledge/skills, moods, and attitudes), and how they can use and balance that information in relation to important performance-based outcomes.

7.6.4 Limitations and Future Research

The current study has a lot of major strengths, including a large, complex, realistic sample, well-controlled sophisticated analyses, and a well-differentiated array of context-sensitive team measures. However, team perspective taking and especially inter-team perspective taking are relatively underdeveloped concepts in organisational research. The novelty and complexity of such research reveals several limitations and avenues for future investigations.

Firstly, the study was cross-sectional in its design. Although the study framework and hypotheses attempted to tentatively lay out plausible causal pathways, we must nevertheless assume that reciprocal relationships, alternative orderings, and third variables are possible (Zapf et al, 1996). In particular, future research should aim to causally disentangle some of the moderations and mediations found in this study. Intervention studies (e.g. intergroup or relationship-based interventions) across longer time periods aimed at promoting higher levels of perspective taking within and across teams would be particularly illuminating.

It may be that the relations found change over time, across different types of team, emergent team states and task contexts. Newly-started teams probably need to engage in careful relationship-building and intra-team perspective taking, which then in turn causally drives other team processes like elaboration, or also psychological safety; the team's tendency to feel safe to openly discuss errors and learning (Edmondson, 1999; Marks et al, 2001). Workplace perspective taking measures should be tested in plausible ordered sequences, as in study 1b of this thesis. It could be tested whether perspective taking effort is followed by empathic concern, and in turn, these motivations and results of perspective taking feed into a growing effective knowledge base of perspective understanding (Davis, 2005; Karniol, 2003).

The second limitation of the current study was that because of the relatively unsystematic organisational work on perspective taking, it had to be tentatively married to other theoretical approaches, including aspects of social identity, team effectiveness, and social information processing theory. Future research needs to take more steps to build theory and test distinctive propositions in these areas further. Can people overcome a strong ingroup identity to consider other perspectives, and if so, how many, and what are the most adaptive (e.g. dual – organisational and team) configurations? Huber & Lewis (2010) maintain that understanding within and between teams can contribute to explaining the absence of social categorisation bias because perspective

taking bypasses basic identity divisions, heightening sensitivity towards potentially useful beliefs, preferences, development, life stories etc. Studies that integrate and build theory on perspectives, diverse targets, and social identity, would seem to make further meta-contributions beyond the current study.

One example is testing the ASPIRe (Actualizing Social and Personal Identity Resources) model of Haslam et al (2003) which uses social identity theory to describe how teams need to dynamically move between defining their own goals and organically accounting for the goals of other teams and the wider organisation.

A third limitation is that the study tested and confirmed associations solely at the team level, but the findings may carry implications for future research at other, multiple levels of organisational analysis (Klein & Kozlowski, 2000). Some of the team benefits assessed in this study may also be inter-team benefits, but need to be assessed at the inter-team level (Richter et al, 2005). Future research should aspire to get teams to mutually report on interactions with other teams more explicitly to expand on some of the findings of this study. Future studies should also seek to be more precise about intra-team and inter-team definitions of elaboration and performance. It may be that some teams are very closely fused and their performances strongly aligned, whilst others have a very clear separation, a different 'thought world' where it is very difficult to elaborate on information from external sources. In conjunction with multilevel approaches at the team member, team, and inter-team level, social network analysis is also likely to be useful (van Duijn, van Busschbach, & Snijders, 1999). It is important to establish which individual team members are highest in perspective taking (e.g. internal experts, boundary spanners, gatekeepers), which teams talk to which other teams and to what extent, and the nature/flow of inter-team ties.

Statistically, the study showed relatively low ICC values at the team level, although rwg agreement was very satisfactory. In short, this means that the study was likely dealing with small but important effect sizes, that the aggregate concepts were meaningful, but that there may well be many other sources of variation in responses (LeBreton & Senter, 2008). One explanation for this is that in the armed forces, the superordinate identities of ship and service are very strong, and the one-way ANOVAs for ship membership confirmed this. Strong superordinate identities, which in the current sample were very regimented, may have dampened some of the effect sizes, and so this study should definitely be replicated in varying team settings. Again, multilevel analysis and studies may be useful; much of the current thesis has indirectly shown that

perspective taking can build from bottom-up component team member interactions, but it is also likely to be affected top-down by larger team and system configurations. Such studies will require careful theorising and contextual analysis. Given perspective taking's operation across various targets, it would seem important for organisations to track understanding across distances: temporal and spatial. It seems likely that leadership teams and virtual environments create distances that disrupt and break down perspective taking processes, and attempts at reparation need to be made to restore a sense of engagement (Calvard, Carter, & Axtell, 2008; Cramton, 2001).

Another limitation of the study is that it only looked at the single mediator of elaboration, which only partly explained the link between intra-team understanding and performance. There is scope for perspective taking and elaboration to be tested further alongside competing parallel mechanisms. These include other concepts that capture how perspectives are maintained, used and linked to outcomes once they are taken. One such concept is self-verification; value in diversity can be harnessed in teams where strengths, weaknesses, and important features of member's self-concepts are openly recognised (Swann et al, 2004). Another is the refinement of various types of team mental models and transactive memory systems (e.g. Johnson-Laird, 1983; Wegner, 1986). While the latter constructs importantly capture the differentiation and status of specific, accurate task perspectives to guide coordination, constructs like perspective taking and elaboration point more dynamically and imaginatively to how entire new task representations or broader possibilities might be crafted (Huber & Lewis, 2010; Van Ginkel & Van Knippenberg, 2008; Wrzesniewski & Dutton, 2001). Combinations of laboratory and fieldwork can also build research around addressing theoretically interesting scenarios (e.g. the 'hidden profiles' paradigm – where in some quarters of the team, valuable information is held by only one or a few members and risks going unnoticed; Stasser et al, 2000).

Finally, as with the other studies in this thesis, this work did rely on self-report measures of key team constructs. Given that it was also cross-sectional, it is possible that common method variance may have affected some of the study relationships. For example, the relationship between the self-reported outcomes of morale and performance was relatively high (0.69) calling into question the discriminant validity of both measures, and suggesting a potentially inflated inter-correlation.

However, team studies, even those with performance measures, are often comprised of self-report methodology, given that a team's members are closest to the

environment and provide the most informed perceptions (Cohen & Bailey, 1997). Procedural steps were taken in that measures were not placed in any particular order to create demand characteristics or a transparent purpose to the study, and respondents were systematically encouraged to take a break in the middle of the survey to maintain concentration. Anonymity and confidentiality were also very carefully assured (Podsakoff et al, 2003). Statistically, all measures reliably differentiated from one another in a rigorous team-level validation of the sample and one-factor solutions were poor fits to the data, suggesting that common method variance is unlikely to explain the findings (Podsakoff & Organ, 1986). Many specific study hypotheses were supported in ways that would be hard to explain if common method bias was a severe problem, and the use of objective control variables constitutes a relatively objective source of data alongside Likert ratings.

Nevertheless, as emphasised generally in this thesis, further steps to incorporate objective performance data, supervisor-rated outcomes and/or perspective taking ratings from various involved parties would be desirable. For the current study, one useful step would be for pairs of team members or pairs of teams to rate each other. This would necessitate the use of additional roster network methods, coding or dyadic methodologies (Burt, 1997; Kenny et al, 2006). Methodological alternatives are discussed further in the next chapter.

7.6.5 Conclusion and Next Chapter

The next chapter is the final chapter of this thesis. The chapter discusses and weaves together the main findings from study 1a, 1b, 2, and 3, in terms of common themes of a situational approach, teamworking, prosocial behaviours, and workgroup diversity. The contributions to organisational theory, research, practice, and policy are considered, as well as some continuing directions for perspective taking research, and some interdisciplinary thinking on the topic.

Chapter 8: Discussion, Implications, and Conclusions

8.1 Introduction

　　The purpose of this chapter is to integrate the key findings arising from the four studies of this thesis. This involves emphasising their contributions to theory, practice, and policy, as well as discussing limitations and extensions of the thesis for future work in related areas.

8.2 A Tale of Four Studies: Overview

　　In this thesis, I set out to develop and apply the concept of perspective taking to team members and teams in the workplace, drawing on a wide range of psychological literature in domains such as social and clinical psychology, and to a lesser extent the more limited literature in the field of organisational psychology. The first study was a foundation study where I aimed to show that team members' perspective taking efforts and motivations to constructively understand others could be validly assessed in teamworking situations. The second study aimed to show that these perspective taking indicators were reciprocally related over time to positive team member outcomes, above and beyond a widely-used personality measure less specific to workplace situations. The third study aimed to show that the three perspective taking indicators could exist as shared perceptions across teams, and also mediate between a team's diversity and its effective functioning. The final study aimed to show that how well teams feel they understand their own perspectives is positively associated with team effectiveness, supported by how much team perspectives are elaborated upon, and how effectively the perspectives of other teams are perceived to be understood.

8.2.1 Integrating the Studies: The Overall Contribution and Scope of the Research Topic

　　I conducted the four studies of this thesis (1a, 1b, 2, and 3) together to make an overall contribution to understanding the success of interactions between diverse groups of team workers. The thesis studies make an unfolding journey from the bottom up – starting with defining perspective taking at the individual level, and progressing to understand related socially supportive team contingencies, outcomes, and mechanisms for diverse groupings in complex organisational systems. My focus on perspective taking was underpinned by the assumption that perspective taking can help

organisations to manage team interactions in diverse social environments more effectively.

As regards the construct of perspective taking, it is a blessing and a curse that it covers so much conceptual ground in terms of how people socially relate and interpret each other's emotions, cognitions, and behaviours. Thus one of the key contributions I make with this thesis, representing a foundation for workplace perspective taking (Parker et al, 2008), is to identify the scope of the research topic and its important linkages with several other organisational paradigms.

First, research in this thesis shows that perspective taking is a malleable attribute of individuals that can enhance importance outcomes. As such, it should assume a fairly prominent place in the emerging paradigms and taxonomies of workplace and educational interpersonal skills (Johnson et al, 2007; Klein et al, 2006). It sits clearly but distinctly alongside a family of other skills, including active listening, disclosure, turn-taking, and non-verbal expressiveness.

Second, as a prosocial, socially creative concept, perspective taking contributes to the understanding of superior contextual work performance and corresponding behaviours. The helping, morale, reflexivity and conflict management correlates analysed in this thesis suggest that perspective taking fits with performances that are sensitive to discretion, extra-role in nature, and of a citizenship-type (Organ, Podsakoff, & Mackenzie, 2006). Perspective taking and its 'thinking out of the box' performance connotation are relevant to increasingly autonomous, uncertain workplaces. In the studies of this thesis I show that perspective taking is related to how team workers transform their roles and engage in progressive performance behaviours, how they understand their social interactions in ways that can be more or less productive (Parker et al, 2008).

Third, the research in this thesis contributes to the team effectiveness literature (Kozlowski & Ilgen, 2006) because it identified team perspective taking as mediator of team attributes (e.g. diversity) and a correlate of team outcomes. Thus team perspective taking focuses on important interpretive and attentional processes that intervene between team inputs and team outputs, and relates to the success of team member interactions and the emergence of team states (Ilgen et al, 2005).

Fourth, from the stance of *organisational and social cognition* (Fiske, 1992; Hodgkinson & Healey, 2008), this thesis shows that perspective taking is similar to a form of interpersonal sensemaking, shaped by perceptions of the social work

environment and diversity (Weick, 2001). I addressed this in relation to team interactions, touching on how team perspective taking can improve understanding of information/viewpoint overload, task representation, and patterns of influence. Organisational cognition concerns the construction of plausible interpretations, particularly where other people may not even know what their own perspectives are outside of the social streams of available organisational information.

Finally, this thesis provides some initial evidence that perspective taking is linked to issues of social identity and workplace diversity, where teams and their members face different social viewpoints. One of the key contributions of perspective taking stems from its tradition in social psychology for transcending problems of group splits and ethnocentrism (Galinsky, 2002; Huber & Lewis, 2010). In relation to social identity theory and self categorisation theory, perspective taking is shaped by patterns of difference, negatively so by inter-personal cultural diversity that is potentially more categorically biased and excluding, and positively by intra-personal functional diversity in multiple areas that contributes towards cooperation, disclosure, breadth of similarity, and overlap in ways of working together (Huber & Lewis, 2010; Roccas & Brewer, 2002; Crisp & Hewstone, 1999; Turner et al, 2007). This is not to say that perspective taking is a panacea to these pervasive social issues; rather that it is a potential positive concept to be incorporated more systematically into future research for reconciling mixed findings. In this thesis I have addressed how team members encounter different viewpoints in team composition according to intra-personal and inter-personal diversity measures, and how teams understand other neighbouring teams. This helps organisations to understand diversity very broadly, in terms of sustaining socially valuable cooperative interactions between diverse working parties.

These topical and overarching contributions of the thesis can be broken down into five more distinct thematic contributions to research and practice which are summarised and developed in the following sections below.

8.2.2 Defining Perspective Taking Situationally for Wider Use in Workplaces

The first major contribution of this thesis is extending research showing that perspective taking can be defined dynamically according to a workplace situation, and can be meaningfully assessed within teams. The studies conducted help to consolidate prior organisational research using situational measures in applied contexts, leading to several implications for practice and future research, which are discussed in this section.

In Figure 8.1 below I summarise the studies, their respective modes of perspective taking measurement and how they all contribute to the theme of understanding situational perspective taking for three key situations: cooperative team member interactions, different forms of team diversity, and own team versus other teams in a multi-team system. The dashed lines signify permeability of viewpoints and the possibility that perspectives will be taken in the situation, whereas the unbroken lines signify boundaries/limits where diverse parties have become impenetrable and disengaged from perspective taking.

Figure 8.1 Thesis Contributions to Understanding Situational Perspective Taking and Teamworking

Study 3   Situation: Complex Multi-Team System
Measure: Perceived understanding with intra/inter team referent (team-level)

-PT inside/outside the team: understanding, learning, and drawing morale from situation-specific targets of own team versus other teams

Study 2   Situation: Managing Team Diversity
Measure: 3 PT indicators (team-level)

-Team PT as the motivation to understand shared situation-specific patterns of diversity. High PT indicates a dynamic linking of valuable diversity with maintaining confidence and reflexively improving team functioning. Low PT indicates stereotyping, subgroup splits

Studies 1a and 1b   Situation: Cooperative Team Member Interactions
Measure: 3 PT indicators (individual-level)

Team members that clearly and constructively work with difference:

-Expend effort in situations where others' viewpoints differ from their own
-Enact compassionate, supportive emotional responses when appropriate
-Generate accommodating, constructive explanations/attributions to positively accommodate the working circumstances of others

Study 1a made a clear contribution towards understanding how perspective taking can be defined and measured within the context of teams. I reviewed the perspective taking literature and identified organisational and laboratory work that used situational measures of empathy and other-serving attributions, as well as developing a third indicator concerning general efforts to understand contrasting views.

In part this is a general contribution to psychology research, but also more specifically evolves a limited body of research carried out on organisations and their workgroups. In this study I confirmed the existence of three forms/indicators of perspective taking that occur as malleable states, or situational responses to others, in work environments with diverse team members present. Many studies still use measures of perspective taking based on general conceptions of a personality trait, implying that individuals change little in their general tendencies across situations and therefore that context-based measures are unnecessary (Davis, 1983; 1996).

In contrast, the situational indicators in this thesis operate from the logic that perspective taking is very likely to vary according to different tasks and social situations (Gehlbach, 2004; Parker et al, 2008). This re-emphasises its fundamental role in human relations (Goffman, 1970; Heider, 1958; Mead, 1934), as well as adding support to the roles of empathic concern and attributions in organisational field studies (Axtell et al, 2007; Parker & Axtell, 2001; Williams et al, 2007). Thus the measure developed in study 1a of this thesis contributes to research by consolidating the use of situational tools to complement the well-established dispositional measures of perspective taking.

In general, perspective taking and related concepts like empathy and sympathy have been subject to a great deal of definitional confusion since their earliest applications in the fields of aesthetics, counselling, and general social relations (Duan & Hill, 1996; Wispé, 1986). Whilst it is almost impossible to unequivocally define the process by which we relate to the minds of others, this thesis has taken a relatively comprehensive, accessible, and practical approach that builds on the most robust assertions of past work. In study 1a I did this by distinguishing three indicators that are diagnostic of when and how perspective taking might take place between team members, across process-result sequences, and in varying cognitive and affective forms.

Acknowledging that perspective taking involves a general, effortful cognitive orientation to the possible differing realities of others is an important first step (de Waal, 2008; Preston & De Waal, 2002). This first step distinguishes perspective taking from sympathy, the latter typically being seen as more of a matched, vulnerable approval of others which is less controllable (Wispé, 1986). I define situational perspective taking indicators as assessing attempts to accurately understand others in a constructive, consciously effortful and enlightened fashion (Davis, 1996). I added the notion of perspective taking effort to the previously researched indicators of empathic concern and other-serving attributions to address two robust claims made about perspective

taking: that it is likely to follow multiple phases or stages, and that it varies in its degree of cognitive and affective focus (Davis, 2005; Duan & Hill, 1996; Gehlbach, 2004).

Thus in study 1a I confirmed across two large samples of diverse team workers the three readily distinguishable indicators of perspective taking: effort, empathic concern, and positive attributions. These different forms of perspective taking are 'indications' of a broader phenomenon, but not 'dimensions'. The indicators each provide insight on perspective taking, but they are not intended to be sub-dimensions that are simply summed to represent perspective taking. For example, empathy or empathic concern is a potential tool or distinctive component in completing a perspective taking effort.

Perspective taking effort to register contrast or difference was proposed as a more antecedent 'process' indicator in any particular perspective taking sequence, whereas the previously studied empathic concern and attributions were seen are more emergent 'results' indicators that occur more subsequently towards the end of any particular perspective taking sequence.

This measure is a significant contribution to the perspective taking literature in that it is a comprehensive self-report measure assessing perspective taking in a progressive way, building on emerging organisational research using empathic concern and attributions (Parker & Axtell, 2001; Williams et al, 2007). I extend this work by developing the additional indicator that closely taps the key 'process' of perspective taking effort, and also by systematically validating the measures over time, using independent samples, and comparing them to a trait measure. The widely-used but generic personality-based survey measure (Davis, 1983), or relatively minimal laboratory instructions and manipulation checks are the only alternative measures used to date (Galinsky et al, 2005). Laboratory work showed that perspective taking could be stimulated as a state in particular situations, regardless of individual differences. The measure developed in study 1a captures this situational variability in a self-report survey format that can be more readily and informatively used in applied teamworking contexts.

The current measure showed potentially more variation over time than the aforementioned trait measure, providing confirmation that the indicators are valid measures of situational or state perspective taking. Thus perspective taking can be studied flexibly and meaningfully in different contexts, tracked, and is amenable to measurable change according to particular applied workplace interventions (e.g.

training, feedback) (Gehlbach, 2004; Parker et al, 2008). The measure was also stable in its three indicator structure, generalisable across separate MBA samples, and immune from distortion over time, meaning it can be used reliably in longitudinal research and different teamworking populations.

Practically, perspective taking can potentially be trained and encouraged amongst workers via managerial interventions. Managers can recognise that perspective taking is not something entirely tied to individual differences, traits, and long-lasting life environments, but can be shaped as a situational state by relatively flexible norms and social contexts. There is a strong implication here that perspective taking is a 'situated aptitude' and thus can be promoted, trained, and learned (Gehlbach, 2004).

Practice and research around training and development should continue to utilise and evaluate the use of intensive group role plays and computer simulations concerning 'perspective dilemmas' (e.g. concerning global and ethical issues) (Bos et al, 2006; Gehlbach et al, 2008). Some recent research evidence suggests that such initiatives do raise the confidence, behaviours, and language associated with adept situational perspective taking amongst teams and team members.

Arts-based approaches to managerial development and organisational change (such as improvisational theatre, watching and discussing films, symbolic exercises) are being used increasingly, and shown to increase perspective taking behaviours relevant to performance (Taylor & Ladkin, 2009). Parallel developments in simulation mean that people can experiment with realistic attempts at being another person, or controlling a computer representation thereof, providing unprecedented social stimulation to the nervous system (Bailenson & Beall, 2006). Future research correspondingly needs to evaluate which elements of intervention work the best and for which perspective taking indicators/outcomes.

Organisations will also need to shape policies accordingly, which may include new training materials and requirements, updated professional chartership procedures, and liaising with higher education bodies to integrate the idea of being a democratic perspective taking corporate 'citizen' rather than a 'tourist' (Turnbull & Muir, 2001).

Throughout the other studies of this thesis, I continued to extend a situational measurement approach to perspective taking and contribute to understanding related critical features of teamworking contexts. In study 1b, a key longitudinal study, I showed significant positive causal paths from the three perspective taking indicators driving team member states and behaviours across periods of intense working

coordination in the lifespan of MBA project teams. This replicates and extends a long tradition of social psychological work on empathy and perspective taking, bringing it out of the laboratory and into the field for testing its external validity (Davis, 1996). The study confirms that by measuring and tracking perspective taking, we can explain significant positive variance in desirable cooperative workplace behaviours. The few previous workplace studies to date used only empathic concern and/or positive attributions indicators, and were cross-sectional in nature (Axtell et al, 2007; Parker & Axtell, 2001; Williams et al, 2007).

In study 1b I systematically established that situational perspective taking indicators can have a set of specific positive impacts amongst diverse team members, ensuring socially successful interactions (Parker et al, 2008). This demonstrates the importance of bringing perspective taking systematically into applied settings, where much previous work has looked at individual personality differences or simple laboratory interventions, and most (exceptions having been noted) workplace studies continue to use personality measures, for the lack of alternative conceptualisations (Galinsky et al, 2005; Rupp et al, 2008).

In study 2, I argued theoretically and confirmed statistically that it is not just individual team members who have relatively unique, personal ways of taking perspectives, but that groups share perspective taking indicators and coordination patterns in aggregate. Here I make the contribution of showing that levels of the three perspective taking indicator measures can be meaningfully shared across entire teams - making an analogous yet distinct move from *team member perspective taking* up a level of analysis to *team perspective taking*. Like many other organisational behavioural phenomena, it is important to recognise that perspective taking can have conceptual analogues at different levels of analysis (Klein & Kozlowski, 2000).

As shown by study 2, team perspective taking captures the channelling of attention towards relevant, unbiased, and constructive intra-personal conceptualisations of differences in a workgroup. This is part of a complex chain of events (likely to be cyclical across task/performance episodes and team lifespan) that starts with salient situational maps of diverse perspectives and ends with critical group functioning. Here I again make the contribution of showing how a team's perspective taking is collective within the shared internal situation of teams themselves. Just as team members vary in how they approach teamwork interaction situations, teams vary meaningfully in how they collectively approach the shared context of their internal social environment.

In study 3 of the thesis I apply the situational perspective taking approach to an ongoing organisational system with multiple teams and departments working alongside each other. The sample was a complex naval-military organisation, subdivided into ships, departments, and teams. Although the study was cross-sectional in design, the sample size was greater than previous studies and made the important extended contribution of using perspective taking measures that explicitly varied the additional situational parameter of the team's perspective taking *target*: one's own team ('intra-team') versus other surrounding teams ('inter-team). This study moved away from the 'active' motivational indicator approach to perspective taking in order to address how effectively, accurately and comprehensively teams felt they understood their shared social environment; both internally and externally, cognitively and affectively. This expanded the measurement approach to empirically consider a team's perceived 'effective' perspective taking or perspective taking knowledge, a situational distinction that has only previously been examined theoretically for applied settings (Gehlbach, 2004; Parker et al, 2008). This measure was labelled *intra-team/inter-team perceived understanding*.

The general findings of study 3 are consistent with traditional theories like Lewin's (1936) field theory that show how social environments can act as spatial fields with social distances and regions. I showed that average levels of inter-team perspective taking were significantly lower than average levels of intra-team perspective taking, reflecting the challenges of perspective taking across contextual workplace boundaries. In this study I make the contribution of understanding how to support perceived coordinated team performance by supporting the situational awareness of viewpoints amidst multiple teams and elaborate task information.

In sum, I refine and extend situational measures of perspective taking in this thesis with good quality psychometric properties for improving future research. The measures allow for systematic assessments of situational team perspective taking, building on some limited organisational work and extending previous research that was only equipped to examine personality traits and laboratory manipulations with minimal context involved. I have shown that a situational measure is useful across multiple studies, for helping organisations to assess perspective taking and manage social appreciation in various critical workplace situations. These include situations where: team members are trying to cooperate, teams are trying to find value in particular contextual configurations of diversity, and where teams are trying to come to a

confidently detailed understanding of their cognitions and affect, as well as for the dynamic situational targets of other surrounding teams.

Practically, organisations may wish to go some way towards deciding which perspective taking indicators are important to them, in what situations and at what levels. For example organisations facing ethical, corporate social responsibility, and/or stakeholder dilemmas will be very concerned with fostering the perspective taking effort indicator (Phillips, 2003; Sonenshein, 2007). Empathic concern will be a particularly important perspective taking result for corporations where 'emotion work' is part of the working ideology (e.g. happy, caring customer service) (Hochschild, 1983). In high-reliability organisations where technology is complex, and errors or accidents severe and costly, positive attributional understanding of causes and effects will be of primary interest for diagnosing problems whilst avoiding a blame culture in the work system (Weick, 2001). Positive attributions are also vital for virtual teams of remote workers, where situational causes for events are often at risk for being overlooked due to their invisible nature, and harsh blaming attributions can take over (Cramton, 2001).

Future research might adapt and further validate the measures in this thesis for use in other work contexts such as customer service, business ethics, multi-team systems, and diversity initiatives. This could involve focusing on particular indicators, emphasising motivation versus effectiveness, and altering item wording and referents.

8.2.3 Processes and Mechanisms Underpinning Perspective Taking in Workplace Interactions

The second major contribution of this thesis is to try and explain how perspective taking operates and is supported in terms of an overall process. The studies of this thesis place diversity type, personality, team processes, and the chosen target of focus as ways of capturing how perspective taking can take form. Studying different explanatory correlates of perspective taking and the mediating roles of perspective taking processes provides several avenues for future research and practice, also discussed in this section.

The overall perspective taking experience of team members (and also whole teams) can be summarised in Figure 8.2 below. In the model shown, I highlight that the perspective taking process is moderated by various environmental task/context factors, to reinforce how this situational approach can be further developed. I also integrate

mechanisms identified across studies, including: process/results indicators of perspective taking (Studies 1a/1b), reciprocal outcome-perspective taking links (Study 1b), intra-team perceived understanding (Study 3), perspective taking as diversity engagement (Study 2), and elaboration (Study 3). Organisations and research dealing with diverse working viewpoints can use such a model as a heuristic tool for knowing when and how to intervene to ensure workers can coordinate their efforts and make sense of their differences in productive ways.

Figure 8.2 Multiphase Model of the Team Perspective Taking Experience
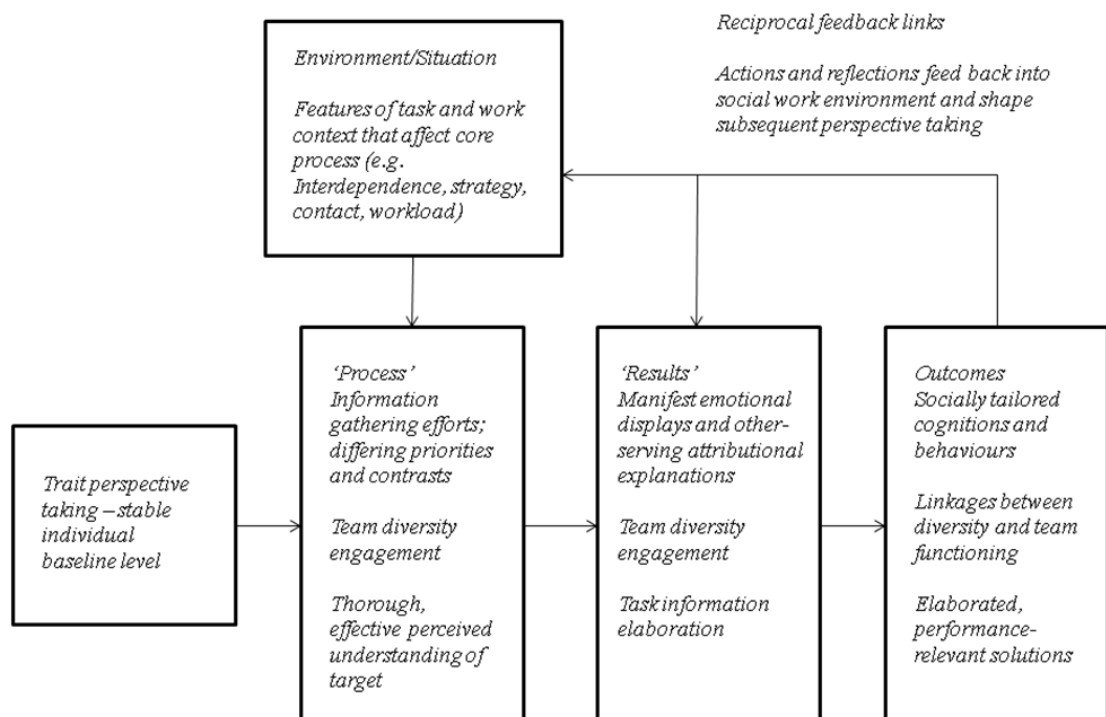
In study 1a I develop theory around perspective taking effort as an initial 'process' indicator, with empathic concern and positive attributions being two 'results' indicators that stem from it. Then in study 1b I use this distinction to empirically explore the difficult puzzle of untangling perspective taking phases or components and their possible ordering (Duan & Hill, 1996). The process-results mediations found suggest perspective taking can unfold according to certain orders and forms. It's also another reason why perspective taking has 'indicators' rather than 'dimensions' – the indicators cannot simply be combined as parts of a greater unified whole, instead they are better viewed as a distinct set of measures that assess different elements of progress towards productive social goals (Davis, 2005).

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The trait-state analyses I conducted in study 1b confirmed that state perspective taking indicators are a more proximal, stronger influence on behaviour. The perspective taking effort indicator in particular acted as a mediator, explaining in more detail how baseline levels of personality or trait perspective taking relate to further states and actions in particular situations. Such trait-state sequences also link perspective taking to a family of other social-cognitive concepts which show the same patterns (self-esteem, motivation, goal orientation) (Heatherton & Polivy, 1991; Chen et al, 2009; Payne et al, 2007). This allows for cross-fertilisation with other concepts and scope for more rigorous, systematic perspective taking studies in the future. Whilst it is important for studies to control for a general stable personality capacity for perspective taking, study 1b provides much more information on flexible mechanisms that can be trained, protected, and encouraged for all the diverse members in a team, irrespective of their dispositional capacities.

The mediations showed that perspective taking effort is related to trait perspective taking and explains its links with the other two state indicators and team member outcomes. Perspective taking effort can be seen as the core 'process' indicator. It is important for workplaces with diverse team members to recognise this discriminant validity so they can manage perspective taking properly. It seems that much of the early phases of perspective taking are about gathering and representing differing patterns of information – i.e. priorities and contrasting arguments (Karniol, 2003). The other two indicators of empathic concern and positive attributions were conceptualised as slightly subsequent 'results' or conclusions drawn from the effortful information gathering 'process', and were thus referred to as results indicators, more distal from trait perspective taking and potentially closer to emerging states and behaviours, or representing ends in and of themselves. The findings build on other research that has shown general perspective taking process to mediate between customer service work orientations and empathy as an outcome (Axtell et al, 2007). It also lends empirical support and refinement to multiphase theoretical models of perspective taking, which generally propose that perspective takers gather information from being involved with the target and then come to a conclusion about how to react or respond (Davis, 2005; Kerem et al, 2001).

The findings of study 1b also suggest that coupling perspective taking effort to empathic concern or attributions interventions – e.g. emotion regulation training, diversity training – is one way to ground it and help to positively relate it to constructive

explanations and conclusions. This is because simply analysing disputing positions is not the full perspective taking story; there are positive emotional reactions and careful responses to be sensitively given and received if very different viewpoints are to be productively sustained in ongoing team member interactions.

Future research and theory should explore linkages between the perspective taking indicators themselves. The 'process-results' sequence might be replicated by additional longitudinal studies with varying time frames. It may also be that the empathic concern and positive attributions 'results' indicators can reciprocally relate over time in positive spirals of cognition and affect (Forgas, 1995; Fredrickson, 2001). For example, a caring empathic concern response may lead to a positively optimistic attributional conclusion, which then serves to further maintain positive affect and subsequent empathic responses.

For three team member outcomes in study 1b I hypothesised and found significant reciprocal paths, suggesting that subsequent perspective taking is positively driven by ongoing states and behaviours, as well as having a hand in producing them. This reciprocity is very important in explaining how perspective taking works overall, highlighting the need for research to see team member perspective taking as occurring in cycles and spirals of activity, with feedback loops.

This makes a useful contribution in terms of linking perspective taking to the overall phenomenon of meaning in organisations. The sensemaking maxim 'how do I know what I think until I see what I say/do?' translates across here into 'how do I know what others think/feel until they see what I say/do?' (Weick, 1995). It also acknowledges interdisciplinary neuroscience work on 'mirror neurons'; part of the neural machinery behind perspective taking that fires largely in response to stimulation from our own actions and those of others around us (de Waal, 2008). The finding confirms general models of social cognition, which view persons, their behaviours, and their environments as triadic reciprocal determinants of one another (Bandura, 1986).

Perspective taking itself falls relatively clearly within the psychological domain of social cognition, where the cognitive information processing of perspective taking thrives mutually on the social experimentation of pragmatic activities (Fiske, 1992). This view coincides with recent theory on perspective taking and workplace ethics, showing that there is often not enough time to consider every abstract moral possibility, but a need to act quickly in terms of reasonable, salient views (Sonenshein, 2007). These reciprocal arguments point to the importance of proactively pioneering

behaviours like helping so that they can be modelled by others and refined (Goldstein & Cialdini, 2007). Perspective taking is not an accurate mindreading art – it is creative, imperfect, and changeable (Ickes, 2003). It involves operating creatively 'beyond the information given'; using best guesses and plausible expressive speech and/or actions (Bruner, 1990). In sum, there will often be a need to 'act first, take perspectives later'. Communication of states and actions will provide team members with fuel for further bouts of perspective taking in their interactions.

The symbolic and expressive value of 'perspective making' would seem worthy of further theorising and research. For example, Koltko-Rivera (2004) reviewed all the research on the 'worldview' construct - a set of beliefs about objects, behaviours, goals and relationships, as well as what can be known and done in the world. The final model of worldviews includes seven major aspects: human nature, will, cognition, behaviour, interpersonal, truth, world and life (Koltko-Rivera, 2004). These philosophical beliefs about time, agency, morals, authority, complexity and knowledge are important substantial parameters that will influence the levels of perspective taking indicators in any given situation. Researchers may also be able to use them as a platform to develop more tailored, specific workplace equivalents.

It is important therefore to study perspectives in society, politics, and organisations to understand how difficult particular content is. This may necessitate everything from small-scale creative suggestions and job attitudes through to the capitalist models that arguably contributed to the recent global recession (Whitley, 2009).

The three team perspective taking indicators were tested as team-level mediators of diversity in study 2, confirming their role as a parsimonious set of central interpretive mechanisms that explain how inter- and intra-personal diversity forms will pan out in groups. The degree of team perspective taking captures the relative amount of effort a team will go to in constructively focusing on inter-personal cultural versus intra-personal functional aspects. The team higher on perspective taking indicators is likely to have an expert sense for debate, discussion, and accommodation in its decision-making, supporting links between diversity and effective work outcomes (Simons et al, 1999). This is very important for ensuring that teams balance the need for quality and voice with the need for efficient adherence to time/financial constraints (Lovelace et al, 2001). Perspective taking as a mediator appears to be related to the negative effects of inter-personal cultural categories and the positive effects of intra-personal clusters of

experience. It partly reflects the degree of inter-personal categorical stereotyping, versus the intra-personal awareness of complexity, and sensitivity to overlap and common ground (Galinsky et al, 2005; Huber & Lewis, 2010; Roccas & Brewer, 2002).

It's worth noting that positive attributions were unexpectedly, out of the three indicators, the only one to not significantly mediate diversity effects. Positive attributions may be such a general cognitive result of perspective taking across all situations of different social viewpoints and events, that they have less of a direct tie to specific diversity patterns than effort and empathic responding.

Finally, in study 3 I contribute to understanding perspective taking process by showing that perceived effectiveness of intra-team perspective taking partly relates to levels of perceived performance via task elaboration. This expands the sequential understanding of perspective taking begun in studies 1 and 2, suggesting that team perspective taking starts with a basic commitment to appreciating differences and ultimately leads to performance through *elaboration;* an enlightening transformation of task representations that incorporates diverse information and generates new solutions (Van Ginkel & Van Knippenberg, 2008).

Task elaboration revolves around the ultimate, sometimes surprising and innovative, performance-relevant information yielded by perspective taking for different viewpoints. Like perspective taking in study 2 of this thesis, elaboration has been shown to mediate between diversity and performance (Homan et al, 2007; 2008). It involves transforming solutions and making final integrated decisions guiding effective group performances (Van Ginkel & Van Knippenberg, 2008). Thus if perspective taking is framing and understanding perspectives, then information elaboration is what is done with the perspectives to connect and make them relevant to performance solutions. Elaboration may be part of a 'wash-up' process, where perspectives are used and implemented to promote behavioural change. One further consequence could be the use of influence and persuasion strategies in the team to persist with uptake of existing perspectives and forging new ones to guide future actions, bringing perspective taking full circle in an ongoing political cycle (Boland & Tenkasi, 1995; Cialdini, 1993; Kipnis, Schmidt, & Wilkinson, 1980).

Organisations can track these types of processes in their teams, and coach and intervene appropriately by dealing with relationship-building, viewpoint-coordination, and elaboration or decision-making stages at corresponding early, middle, and late stages in the team task cycles (Hackman & Wageman, 2005; Marks et al, 2001). Again

we should see perspective taking as a multi-phase experiential process or toolkit for entire teams, involving a thorough, evolving target understanding (Davis, 2005; Duan & Hill, 1996).

Practically, it is important to see the organisation as an open system for promoting perspective taking, and to avoid communications becoming mysterious and travelling down restrictive conduits. Organisations need to open up their feedback channels and see language as a series of games – to be resolved via practices of clear databases of stories, regular electronic communications across communities, discussion boards, and cross-functional group meetings where reflection is attempted (Boland & Tenkasi, 1995). Such practices will help to avoid failures of perspective taking, minimise effort required, and ideally generate more complex understandings of situations and problems, increased contagion of positive states and behaviours, and an ongoing cycle of action-reflection-understanding-action (Weick, 1995). To some extent, this is consistent with the notion of a 'learning organisation' (Argyris, 1999), but also about compromise, peaceful coexistence of viewpoints, and avoidance of costly misunderstandings.

Future perspective taking laboratory research will remain important for answering fundamental logistical process questions with causal precision, focused manipulation, and highly theory-centred designs (Colquitt, 2008). We still know relatively little about basic parameters of perspective taking processes. For example, given a particular individual/group scenario, roughly how many perspectives can be considered at once before the cognitive load becomes too great? Does the moral, abstract, and/or emotional nature of a perspective affect the difficulty of the task? Does the richness of the communication media or stimulus format (e.g. video, prosodic story) affect the ease with which perspectives are taken? The more of these fundamental questions that are tested via laboratory research, the more clearly and systematically we can build a 'science of perspective taking' from the bottom up, and then seek out corresponding field settings. The study frameworks from the current thesis can be used to inform analogous laboratory designs, and the self-report measures can be used as key variables and/or manipulation checks.

8.2.4 Showing that Perspective Taking Matters at Both the Team Member and the Team Level

I have shown via rigorous studies – using longitudinal data, large samples, and comprehensive measures – that perspective taking matters in relation to critical workplace outcomes, both at the team member and team levels of analysis. Understanding how perspective taking contributes to the success of team interactions and behaviours suggests several avenues for future research and practice, which are also discussed in this section.

The theoretical and empirical developments around perspective taking-outcome associations are integrated across thesis studies and summarised in Figure 8.3 below. The figure describes how the team member and team levels provide perspectives that are socially interpreted in relation to valuable outcomes and successful interactions at both levels of analysis. The figure draws on the prosocial team member interaction findings of study 1b, the diversity management findings of study 2, the team effectiveness findings of study 3, and integrates theory from the teamworking and perspective taking literatures.

Figure 8.3 The Value of Perspective Taking: Key Relations of Team Member and Team Perspective Taking with Outcomes
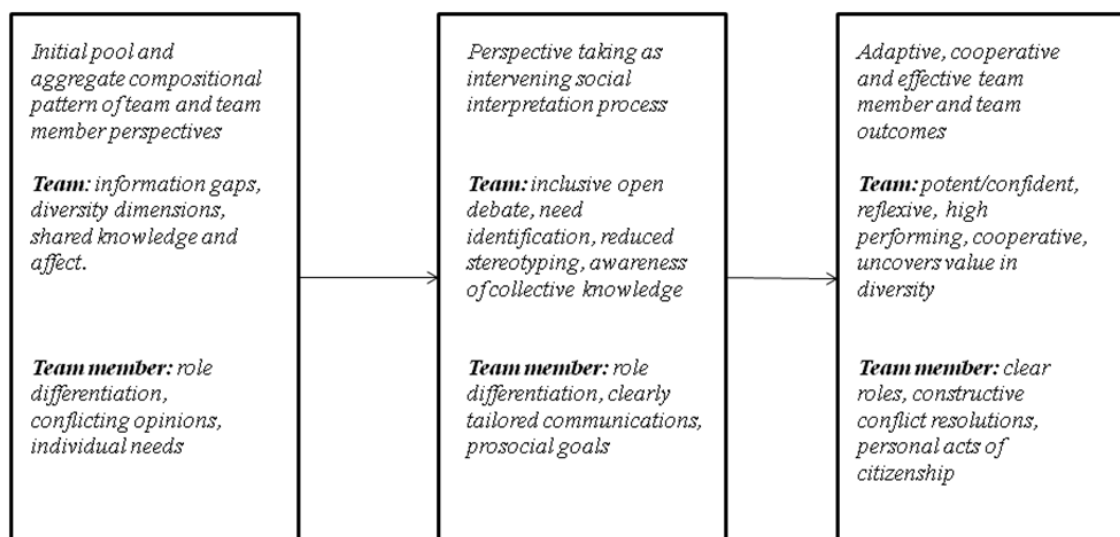
In study 1b I built on the initial validation of the three indicator measures developed in study 1a by relating them to prosocial states and behaviours that capture aspects of effective interactions at the team member level. Where study 1a provided an

answer to the question 'what is perspective taking'? Study 1b then went on to provide answers to 'what do perspective takers in work teams do/think?

Perspective taking was shown to positively relate to three prosocial states and behaviours. Firstly, role clarity – perspective taking relates to a greater sense of differentiation and responsibility in teams, potentially helping them to play to their strengths, share workloads, and honour obligations. Role clarity is likely to be important for reducing stress between team members and improving role-based performances (Bliese & Castro, 2000; Humphrey et al, 2009). The perspective taking indicators engaged in by team members thus seem to be important in the setting up and maintenance of role relationships at work. This finding also makes a theoretical contribution by suggesting that perspective taking can help team workers to differentiate among themselves (Batson et al, 1997; Karniol, 2003).

Secondly, helping behaviours – perspective taking positively relates to greater cooperation, encouragement, and citizenship between diverse team members. This is consistent with the long tradition of laboratory work showing that when participants encounter diverse others in need of help, perspective taking instructions motivate people to give greater donations, give more of their time for larger causes, perceive similarities, and value well-being (Batson, 1991; Batson et al, 2007). This finding is particularly important in an applied teamwork setting because of its positive nature – the perspective taking indicators show ways by which team members can become inspired to engage in very virtuous and positive acts, which in turbulent environments can help workers to remain resilient and confident under competitive and economic pressures (Cameron et al, 2004).

Finally, conflict management behaviours – perspective taking relates to dealing with conflicts constructively, working through them, and finding mutually beneficial resolutions. Perspective taking appears to promote the extent to which people openly embrace conflict, learn from it, and find ways of positively transforming it (Davidson, & James, 2007; Sessa, 1996). In increasingly diverse workgroups and communities, differences of opinion will be common. Perspective taking fits with notions of 'constructive controversy' and 'dialectical reasoning', which previous research has shown captures a particular set of social dynamics where people are committed to hearing out and integrating contrasting differences into new solutions where possible (Basseches, 2005; Tjosvold et al, 2003).

In study 2 I confirmed that perspective taking can also be shared and have meaning at the team level; that all members of a team consistently perceive similar perspective taking tendencies on the three indicators, and that team averages vary meaningfully from one team to the next. Thus organisations can assess and create changes in perspective taking for whole teams and social groupings, which is important for resolving group-level biases and enhancing the performances and well-being of many diverse workers at once (Huber & Lewis, 2010). This also means that organisations can assess, reward, and give feedback on perspective taking at the team level, as a team competency guiding team effectiveness.

Perspectives are never totally unique to individual interactions, but negotiated, discussed, established, and socially constructed – for example, the legal and judicial system itself is a social aggregate of accumulated perspectives and practices for perspective taking (Bruner, 2002). Perspective taking is a climate for understanding stories and events that affect the whole group (Keen, 2006). Study 2 contributes to a growing literature arguing that groups, teams, and departments have their own 'thought worlds' and awareness of how to fill representational gaps in understanding (Cronin & Weingart, 2007; Dougherty, 1992; Weick & Roberts, 1993). This sets a precedent for group-level management of perspectives. Organisations need to keep aware of their groups - the overall patterns of diversity and conflicting viewpoints - in order to close/overlap these larger-scale gaps in perspective and be mindful of them.

This thesis assumed a 'direct consensus' aggregation, where individuals' perspective taking combines in a relatively agreed-upon, uniform manner for the components to make up the shared whole (Chan, 1998b). This is likely to hold true, and appeared meaningful statistically, for the cooperative teams studied. However, under other circumstances, there may be sharp discontinuities or skews in the distributions of perspective taking in a social system. For example, some individuals may be very powerful, controlling the resources of others, and therefore powerful perspectives will be particularly important, and attended to with asymmetric care by those with less power (Galinsky et al, 2006; Harrison & Klein, 2007; Huber & Lewis, 2010). Alternatively, teams may grow smoothly and regularly by adding/recycling members at fixed intervals, creating sudden stepwise adjustments in the perspective taking levels of teams and their members (Huber & Lewis, 2010). These different conceptualisations of how perspectives combine require use of different statistical indices for aggregation (Chan, 1998b; Harrison & Klein, 2007). They offer the promise of understanding how

to promote perspective taking most effectively in various complex systems, mapping amplifying and contagious processes.

In study 2, the perspective taking indicators were also positively associated with team potency and reflexivity, confirming their role in relation to teams who are confident in using diversity to reach their goals effectively, and able to use their diversity to reflexively question improvements in how they operate. At a basic validation level, this places perspective taking at the centre of important processes of team viability –finding value in diversity, considering creative solutions, and generally engaging with team functioning that encourages superior perceived task performances.

Perspective taking will sometimes have a darker negative or at least more neutral side, relatively unexplored by this thesis and its concerns with prosocial cooperation in collaborative contexts. There is still a lot we don't know about professions where perspective taking might have to be faked or used manipulatively (e.g. politicians; Silvester, 2008). In laboratory negotiations, parties high on empathic affective perspective taking indicators are likely to be manipulated when paired with others high on cognitive perspective taking indicators (Galinsky et al, 2008).

On the other hand, perspective taking is likely to have important value in explaining variability in when workers engage in proactive and adaptive behaviours (Griffin et al, 2007). In this thesis I have shown that perspective taking by workers and teams is related to key perceptions of roles, cooperative behaviours, and diversity. Managers and organisations should acknowledge that they are unlikely to be able to give all the answers to performance, or possibly even any of the best ones, but should encourage employees and teams to define their work more proactively via perspective taking (Gittell, 2005; Wrzesniewski & Dutton, 2001).

There is also the possibility of linking perspective taking to workplace creativity and innovation. Perspective taking can help workers and teams break out of habitual routines, avoid conformity, and appreciate more deeply the value of creative actions, linking them to performances (Ford, 1996). Generally, perspective taking may serve as a moderating or mediating concept for creativity and innovation relationships, sustaining the links between motivation, efficacy, learning from diversity and performance (Gong, Huang, & Farh, 2010).

In study 3 I showed that how well a team perceived that it effectively understood its own perspectives was positively associated with self-reported morale, performance, and helping. In the case of morale, a perceived understanding of other teams also

showed an unexpected positive association. Thus effective team perspective taking is associated with a sense of confidence, competence, and learning (Edmondson, 1999). In the case of helping, the findings extend study 1b by showing that not just individual members but teams as a whole can become normatively aware of their helping needs, moral expectations, and resilience under pressure by routinising perspective taking across their members (Dutton et al, 2006; Penner et al, 2005). Finally, in the case of perceived performance, perspective understanding within a team seems likely to relate to an improved collective sense of coordination, communication, unique valuable information, situational obstacles, and informational needs (Krauss & Fussell, 1991; Moore, 2005; Stasser et al, 2000; Weick & Roberts, 1993).

These main effect associations extend predominantly individual-level perspective taking research showing that group member perceptions, attitudes, and behaviours benefit from perspective taking (Galinsky, 2002). By studying teams in applied workplace settings and developing a situational measurement approach, I have shown that the constraining power of workplace structures like teams, and their need to fulfil certain coordinated, cooperative functions leads to an emergent shared team perspective taking (Morgeson & Hofmann, 1999). Understanding phenomena at multiple levels enriches management research by providing easier integration of research across disciplines, developing multilevel theory, and capturing the complexity of real-world problems (Hitt, Beamish, Jackson, & Mathieu, 2007).

Future research and theory can use perspective taking to more broadly understand how a team performs in a complex social environment, rather than just a simple, static sharing and division of labour. Research should seek to further examine intergroup effectiveness in multi-team systems as where perspective taking is focused is likely to be a key mechanism determining how different teams work together organically (Mathieu et al, 2001; Richter et al, 2005). Also of use will be exploring how different perspective taking indicators and foci relate to different boundary spanning activities, as teams in large organisations seek to build trust and collaboration with clients, stakeholders, and other departments (Ancona & Caldwell, 1992; Williams, 2007; Yan & Louis, 1999). For example, positive attributions may be important for filtering out irrelevant causal information, empathic concern for serving caring ambassadorial functions, and perspective taking effort for negotiating different demands. Teams' understanding of their own perspectives and those of other teams may be instrumental in building social capital and absorptive capacity (Adler & Kwon, 2002;

Zahra & George, 2002). Organisations and managers should start to see perspectives as realisable sources of competitive advantage, and a key social resource to be exploited.

In sum, perspective taking matters – for team member outcomes and the shared outcomes of whole teams. Organisations can use this information to guide team formations, assessments, coaching and feedback for effective performance, conflict and diversity management. In general, research can continue to see if perspective taking can be wedded to distinct organisational outcomes of extreme positive behaviours, extreme negative behaviours, cognitive interpretation or sensemaking, and evolving definitions of contextual performance (e.g. creativity, proactivity). Future research should aim to go beyond the reliance on self-reported outcomes which limits the studies of this thesis, and gather observer ratings and more impartial, objective data on how perspective takers behave.

Future organisational research may also wish to investigate multilevel developments and the interfaces between levels of individual, team, and organisational analysis (Hitt et al, 2007; Klein & Kozlowski, 2000). For example, there may be bottom-up effects flowing from the team member to the team level, such as token individuals (e.g. leaders, team members with multicultural experiences and/or salient life experiences) engaging in virtuous, prosocial perspective taking that inspires and shapes the whole group. Or vice versa, there may be large-scale, top-down effects (e.g. shared events and experiences, broader available social comparisons) that inspire individuals and/or teams to engage in more enduring perspective taking efforts. Managers might practically attend to these multilevel dynamics, shaping them and intervening to capitalise on possible positive spreading of perspective taking effects.

Finally, there would seem to be great benefits for organisations to promote prosocial perspective taking values in their overall policy-making, and to discourage egocentric ones. In some senses, it is a very natural thing for employees to be egocentric and self-serving, lost in their own personal and group-based concerns (Dougherty, 1992; Epley, 2008). But it can be equally natural for organisations to set prosocial goals where the workplace is seen as a place for sustaining family-like relationships, and a spreading sense of care (Dutton et al, 2006; Penner et al, 2005). Prosocial goal-setting reminding that opportunities to help and cooperate are plentiful, and emphasising that costs can be relatively low, will help protect the goals and aims of perspective taking and translate good intentions into mutually profitable outcomes (Gollwitzer & Sheeran, 2006).

8.2.5 When Perspective Taking Matters Most

The fourth major contribution of this thesis concerns how I have shown that perspective taking acts sit against a backdrop of moderating individual differences and team work perceptions. These moderating or antecedent factors are important for determining how much socially enacted value can be derived from perspective taking interactions, for whom, and under what circumstances.

Figure 8.4 below integrates and develops the key interaction trade-offs and contingencies of the thesis. The diagram describes a summary 2×2 team model of high versus low intra-team versus inter-team perspective taking and explores effects and their scenarios for team members and teams. The model draws on the thesis correlates of perspective taking, including dispositional self-esteem (Study 1b), perceived task interdependence (Study 1b), team diversity (Study 2), and intra/inter-team focus (Study 3). However, the quadrants themselves suggest theory development around more extreme contingencies that have not been studied in this thesis, and draw on the perspective taking literature to outline scenarios that measuring these conditions on a wider range of values might reveal.

For simplicity, the model is presented solely at the team-level, so the moderators of study 1b are implied in terms of team-level equivalents. The quadrants explore how teams might conceivably struggle, with varying degrees of success, to understand the viewpoints of their members, as well as the viewpoints in the surrounding work system. Organisations and researchers can use this model as a heuristic and strategic planning tool for team and system design, diagnostic team assessment, as well as the management of diverse viewpoints and functions. It draws on and extends the work of the thesis in showing where and when teams can benefit most from perspective taking, and what kind of focus (intra-team or inter-team) might be lacking.

Figure 8.4 Intra-Team Perspective Taking, Inter-Team Perspective Taking and Contingent Characteristic Team States

Low Intra-Team, High Inter-Team *'Outward-Looking'* *Drawing morale from team's external environment, but may not perceive interdependence within itself* *Seeing interdependent connections with multi-team system for superior performance* *Making productive comparisons with system to inspire and motivate* *Subject to external chaos, distraction, and overload*	*High Intra-Team, High Inter-Team* *'Heedful System Player'* *Tailored discretionary prosocial behaviours strongly enabled, inspired by relationships across diversity and team boundaries, awareness of common ground and fruitful overlap* *Proactive, adaptive team environment that is outward-looking and with simultaneous 'dual identity' grasp of its own identity/diversity and fluid boundaries for learning, coordination with system. Confident, but perceives optimal interdependendencies*
Low Intra-Team, Low Inter-Team *'Split and Disconnected'* *Low on most team outcomes* *Very disconnected, low in confidence, may not even realise there is a clear team at all* *No grasp on its own diversity pattern or that of the wider system* *Suspicion, dissatisfaction, low morale and competitive splitting*	*High Intra-Team, Low Inter-Team* *'Conservative Team Player'* *Avoidance of bigger picture identifications, vulnerable to crises of confidence and unique internal problems* *Good internal perspective and clarity to cope with performance demands, perceives interdependence within itself* *Fails to be inspired as more helpful citizens or positively influenced by standards of other teams, finds them difficult to comprehend*

Two moderating conditions in study 1b were identified that showed when perspective taking indicators matter most for team member interaction outcomes. In this case, instead of finding 'additive' supports that boost perspective taking, the findings unexpectedly showed that perspective taking can be a critical support for particular vulnerable individuals. Firstly, individuals relatively lower in dispositional self-esteem benefitted the most in their behavioural outcomes from increased perspective taking. On the other hand, those highest in self-esteem benefitted significantly less (although still in a significant positive direction).

One likely explanation for this finding is that those lower in self-esteem feel more withdrawn and threatened by other perspectives. In terms of teamworking and diversity, managers and researchers may need to take into account those vulnerable to self-esteem threats – diverse minorities, newcomers, those low in status, low

performers. The finding is powerful in showing that those lower in self-esteem are likely to benefit more from perspective taking interventions, which would seem to represent one potential way of restoring confidence and capacity for interacting with others.

Laboratory research has shown that harmful feedback and image threats can interfere with perspective taking and communication (Galinsky & Ku, 2004; Gollwitzer & Wicklund, 1985). Furthermore, those who fear that other team members can tend to see them as inauthentic and illegitimate face painful decisions to conceal their true perspectives and feel disconnected from others (Clair et al, 2005). However, this finding recognises perspective taking as a counter-condition to low self-esteem. This also relates to protecting against the outgroup bias problem of social identity theory where members of the same team, but with differing group memberships perceive problems of identity threat, discrimination, competition, and stereotyping (Haslam, 2001). Perspective taking appears likely to play a role in mitigating some of the biases, overload and pressures of low self-esteem, whilst steering interactions back into engaged, cooperative territory.

Organisations need to be vigilant to team members that are likely to suffer in their interactions by feeling left out, less than adequate, or not easily understood by others. These minority parties need to be socialized carefully, given voice, and given space generally to challenge assumptions, take perspectives and actively share unique information (Ely & Thomas, 2001). It is an unfortunate irony that those who may need to be heard most don't feel good about themselves, then don't feel good about others, and are at risk for withdrawing to protect their egos, unable to act in relation to the perspectives of others (Galinsky & Ku, 2004).

The interaction should also be interpreted at its other extreme of high self-esteem. Team members who feel good about themselves already are more likely to experience more confidence and optimism in coordinating their perspectives with others, and benefit slightly less from additional increases in perspective taking. Whether or not these latter team members have become complacent, dominate interactions, or are at risk for behaving in an over-confident scripted manner without feeling perspective taking is necessary (e.g. Schwalbe, 1991) is a question worthy of alternate measures and future research.

The second moderator identified in study 1b was perceptions of reciprocal task interdependence. Of a similar pattern to self-esteem, team members who perceived that

completion of their work tasks was less closely tied in to others and depending on accurate information sharing stood to experience the sharpest gains in positive outcomes from increases in perspective taking. If workers feel that their work cannot benefit from cooperative sharing with others, then this will inhibit curiosity about forming close relationships (Barry & Crant, 2000; Gittell, 2005).

Hence perspective taking can be placed alongside task interdependence as a key ingredient for cooperation and learning between group members (Johnson et al, 2007). These two social components complement and compensate for one another. Interdependence is a relatively fundamental feature of teamwork (Wageman, 1995), and if team members perceive it in high levels already, additional perspective taking may add little to their formulae of delegation and coordination. However, when interdependence is relatively lower, perspective taking improvements may stimulate team members to take action to create interdependencies and connect their work in meaningful ways where before there were none (Grant, 2007). The finding also speaks to the idea that perspectives don't reside purely inside the heads of organisational actors, but in the potential socially rich connections between them (Adler & Kwon, 2002; Weick & Roberts, 1993).

Self-esteem and interdependence perceptions begin to contribute to the development of perspective taking 'profiles' for individual team members, allowing workplaces to diagnose who is using perspective taking the most and when they are linking it to states/behaviours, who is part of the fabric of the team or not. In particular, diverse team members who are experiencing low self-esteem and/or feeling that their work is independent and not being accounted for cooperatively stand to gain the most from increasing their perspective taking, as do the parties around them.

Future research may want to search for additional task moderators of team member perspective taking relationships (e.g. rewards, feedback, and quantity/quality of contact) that shed light on conditions to be alleviated or encouraged to ensure that perspective taking's relations with other states/behaviours will occur in the strongest positive directions. Laboratory research has shown the impact of simple manipulations of cognitive load, accountability, and time pressure (Malle, 2006; Moore, 2005; Roβnagel, 2000), and it is important to see if the workplace analogues of these conditions affect team member perspective taking indicators. In terms of dispositional and individual differences moderators, 'other-orientation' is a construct of emerging importance (Meglino & Korsgaard, 2004).

Other-orientation captures an individual's epistemic belief that they can draw perspectives from their environment in a way that is less instrumental and self-interested, and more sensitive to incoming social information (Korsgaard, Meglino, & Lester, 1997). Other-orientation of diverse team members would be likely to combine with perspective taking to ensure productive behaviours, including disengaging from failing courses of action, acknowledging critical feedback, modifying extreme attitudes, and making comprehensive decisions – all productive linking of viewpoints to behaviours (Meglino & Korsgaard, 2004).

More generally, one direction for future theory and research will be to examine a network of additional individual differences and trait variables alongside the measures used in this thesis, to help understand who the most engaged perspective takers in the workforce are. This might include future studies that measure the Big 5, facets of general intelligence, learning orientations, and the core self-evaluation trait, among others (Barrick & Mount, 1991; Bono & Judge, 2003; Payne et al, 2007; Schmidt & Hunter, 2004).

The profile for a cooperative perspective taker might be someone agreeable, affiliative, creative, curious, open to experience, verbally intelligent, intrinsically interested in learning, and with a tendency for dealing in complex information (Davis, 1996; Ickes, 2003). Further research and theory on these connections can inform workplace selection for jobs involving teamwork and diversity, and develop a valid trait nomological network to sit alongside the state ones produced in this thesis.

In study 2 I extended the social context of study 1b by including measures of team diversity as team antecedents. The study measured workgroup diversity in two important ways – cultural differences across members and multiple functional experiences held by each team member. A case was made that inter-personal cultural diversity was more categorical, fixed, vulnerable to stereotyping and less meaningful to the job at hand. Intra-personal functional diversity was argued as more flexible, overlapping, and potentially directly beneficial to the work tasks at hand. Crucially this distinction was borne out in study 2: inter-personal diversity was associated with lower levels of perspective taking and team outcomes, whereas intra-personal diversity was associated with higher perspective taking and team outcomes.

This emphasises how important it is for groups to be composed of members who can variously contribute in the first place and to avoid putting together a group who will crudely split itself on stereotype-based dimensions who are unlikely to improve on any

work outcomes (Bell, 2007; Lau & Murnighan, 2005). Obviously inter-personal categorical differences (e.g. gender) need not be inherently inimical to group functioning, and will often be inevitable. The data suggests that inter-personal diversity is more vulnerable to misconception and reduced perspective taking because of its enduring and categorical nature (e.g. language barriers; mutual exclusivity).

The findings indicate that perspective taking matters most when diversity can be perceived as flexible, multi-dimensional and relevant to work outcomes. There is likely to be a felt need to 'get to the bottom of the diversity' and establish how it can best benefit the team and remain viable. This may involve trying to seed the team with overlapping members where possible, emphasising superordinate categories, creating space to identify intra-personal aspects of diversity like various skills/experiences, and/or intervening to encourage perspective taking efforts and behaviours.

In study 3 I tested how team perspective taking might matter more when supplemented by a corresponding increase in the understanding of surrounding teams' perspectives, in relation to improved self-reports on key team outcomes such as performance, helping, and morale. The 'inter-team' perceived understanding measure was included to explore the value of an 'external' perspective on teams (Ancona & Caldwell, 1992); i.e. whether there are benefits and trade-offs when perspective taking attention is directed at different targets outside one's own team. In the study I showed that perspective taking can vary by target, and also be measured in terms of a sense of thorough *perspective understanding* and effectiveness, as opposed to the motivation to positively frame differences addressed by the three indicators in previous studies.

A team's shared perceived understanding of the perspectives of other surrounding teams was construed as a key contingency for understanding how and when intra-team perspective taking operates successfully in relation to key team outcomes. In other words, does the process of inter-team perspective taking go synergistically hand in hand with intra-team perspective taking to characterise the best-functioning teams? This additive interaction was supported, but only in relation to the outcome of team helping. A team with simultaneously high understanding not just of its own internal perspectives, but also the external perspectives of other teams, was associated with the greatest gains in team helping.

Thus general experience with the wider system seems to contribute to prosocial behaviour within teams particularly strongly. Looking inside and outside the team simultaneously appears to provide particularly rich information with which to

encourage and aid one's own team members. Prosocial behaviours often spread and can be learned throughout systems via positive intergroup relations (Penner et al, 2005). This finding again confirmed that perspective taking matters most in relation to making valuable social connections between parties; in this case to engage in tailored helping behaviours and smooth interpersonal cooperation with one's own team members (Batson, 1991; Galinsky et al, 2005). Citizenship and helping are discretionary behaviours in workplaces that typically involve going above and beyond the call of duty and engaging in substantial exchanges with other parties (Organ et al, 2006). Organisations that wish to promote helping need to give teams time and space to balance their attentions inside and out, giving them freedom to open up, adapt, evolve, and spread their structures in discretionary directions that can then be drawn back inwards to normalise, readjust standards, and add productive value (Smith & Gemmill, 1991).

I would also emphasise this finding in relation to the literature on multi-team systems (MTS) which argues that in work scenarios there is often a wider system or 'team of teams' that can sharpen their behaviours by learning from each other in relation to larger objectives (Mathieu et al, 2001; Marks et al, 2005). In study 3 I contribute to this work by showing that a team's external perspective taking can positively moderate and support its internal perspective taking effects. One explanation for this might be that teams flexibly perceive inter-team interdependencies that add meaning to their work. A perspective taking understanding of other teams provides a more dynamic basis for comparison, standards, obligations, inspirations and social influence than a more static (albeit thorough) understanding only of internal perspectives as they currently exist (Grant, 2007; Wrzesniewski & Dutton, 2001).

This also importantly replicates the finding in study 1b but in a more positive form. In study 1b, I found that team members low in self-esteem and low-interdependence were particularly vulnerable and more responsive to perspective taking gains to engage in more prosocial behaviours. In study 3, whole teams achieved this support by cross-referencing their own perspectives simultaneously with those of surrounding teams and those in other departments.

However, in study 3, inter-team perspective taking failed to enhance intra-team perspective taking's relationships with perceived morale or performance, or the indirect relation with performance via the mechanism of elaboration. Thus although beneficial for a team's perceived helping behaviour, inter-team perspective taking in combination

with intra-team perspective taking did not appear particularly beneficial for a team's perceptions of its own performance or morale.

However, this lack of support is probably partly explained by two other findings. Firstly, levels of inter-team perspective taking were significantly lower on average than those of intra-team perspective taking. This was as hypothesised, and contributes empirically to theoretical and laboratory work showing that adjusting to perspectives over greater social distances is more difficult and subject to failure, bias, or inaccurate construal (Epley et al, 2004; Gehlbach, 2004; Ross & Ward, 1996).

Thus although it was associated with higher levels of helping within a team, understanding other teams' perspectives may be too difficult and cognitively burdensome to efficiently and realistically relate back to internal performance. Performance benefits may depend on other factors, such as inter-team relationships, communication systems, and performance definitions (Gittell, 2005). Note that this doesn't rule out the possibility that inter-team perspective taking can support intra-team performance, but instead implies that organisations may need to reorganise their multi-team systems to realise such benefits, given the general difficulty of achieving higher inter-team understanding, especially if teams constitute separate knowledge communities (Boland & Tenkasi, 1995; Dougherty, 1992).

Secondly, inter-team perspective taking was directly associated with morale, in contrary to the expected additive interaction with intra-team perspective taking. This seems to suggest that in the case of morale, a simple understanding of perspectives external to the team makes its own contribution directly, without having to necessarily be combined with any internal understanding, as might be the case for helping and performance. Thus morale appears to be less concerned with other teams' formal relevance to one's own team, but rather of a more abstract, inspirational nature. Understanding other teams across boundaries that are very different may boost a team's internal sense of trust, openness, and feelings of capability around team morale, independent of how well teams understand themselves (Edmondson, 2002; Williams, 2007).

With study 3 in general, I contribute applied empirical support to the dual identity model of social identity research, and also the theory of optimal distinctiveness (Brewer, 1991; Haslam et al, 2003; Richter et al, 2006). These two theories suggest that work teams function best when they simultaneously identify with the larger organisation whilst also retaining recognition of their own team's distinctive identity and

contribution. The support of study 3 is indirect given that I measure team perspective taking instead of social identities, but nevertheless shows that focus on one's own team versus the bigger organisational picture is positively related to outcomes, both directly and in combination.

Organisations need to assess how far team perspective taking can and should stretch its scope as there are likely to be points of diminishing returns. There are many moderating target elements of decipherability, familiarity, similarity, salience, past experiences, and opportunities for learning (Preston & de Waal, 2002). These conditions are likely to interact in further ways to affect team confidence, trust, and coordination. Thus target features should be systematically examined in workplaces by organisational researchers, and monitored carefully by managers. Research should analyse virtual team targets also, who may need richer communication mediums so that perspectives are not lost, dampened down or mistranslated by a host team or department (Boland & Tenkasi, 1995; Hinds & Mortensen, 2005).

In sum, taking all the thesis studies together, I show that perspective taking matters most when creating valuable working relationships and partnerships in socially complex conditions; meaningfully integrating diverse individuals and motivating them to engage in cooperative behaviours by positively understanding connections with others.

In HR terms, these potentially fruitful perspective taking connections can be supported and their spatial character addressed by 'relational' work practices that bring people together or allow greater movement, including close supervisory spans of control, broad performance recognitions, building work-family relationships, and compassionate leaders (Gittell, 2000; 2005). Job rotations and cross-training also bring team member perspectives together in ways that enhance social capital and understanding above and beyond basic job definitions, boosting innovative developments, adaptivity, and high-performance collaborations (Alder & Kwon, 2002; Campion et al, 1994; Marks et al, 2002).

It is managerial attention to potential close relationships that strikes an adaptive middle ground between the organic complexity of dynamic individuals and the mechanistic efficiency of larger groups (Barry & Crant, 2000; Bradbury & Lichtenstein, 2000; Brickson, 2000). Thus organisations need to look at their workforces in terms of the valuably different perspectives team members, dyads, and diverse team subgroups bring, allowing awareness of them to be recognised and to flourish in natural directions

(Weick, 1995). Managers thus also need to practise designing jobs relationally –
allowing workers to craft their jobs and seek out inspiring connections and viewpoints
that can meaningfully cross-fertilise and mutually energise their sense of their work
(Grant, 2007; Wrzesniewski & Dutton, 2001).

Finally, a policy implication of this thesis is that perspective taking matters to
the extent that there is a perceived need for balance between bureaucracy/efficiency and
organic form/flexibility in the way that organisations are run (Weick, 2001). The former
constitutes perspective segmentation and the latter constitutes a synergy of perspectives.
They both have their pros and cons, but one without the other is likely to have negative
impacts at all levels of organisation. Rational bureaucracies of standardised roles,
routines, and task designs have time, efficiency, and tradition on their side, but can also
be very autocratic and prone to sudden breakdowns or disasters (Weick, 2001).
Perspective taking varies according to other conditions (e.g. external team focus, self-
esteem, deep diversity, interdependence) that reveal ways of 'enabling' bureaucracy and
making it more organic and responsive (Adler & Borys, 1996).

8.2.6 Team Perspective Taking as an Intervening Process Linking Team Diversity with
Team Outcomes

I make a specific contribution in study 2 by showing that team perspective
taking mediates between team diversity formations and team outcomes. The perspective
taking indicators shed light inside the 'black box' or on difficult-to-observe processes
that determine whether working groups are able to find value in their diverse
perspectives (Van Knippenberg & Schippers, 2006). Inter-personal cultural diversity
appears to reduce perspective taking effort and empathic concern, whereas intra-
personal functional diversity is positively related to these two indicators. It is the way in
which diversity engages positive perspective taking processes that plays a role in
determining and explaining how well the team will function as a result. In studies 1 and
3 I also looked at diversity implicitly in the sense of differences in team member
interactions and between different teams, but not as explicitly as in study 2, where I
used relatively objective definitions around cultural backgrounds and previous work
experiences.

Drawing on over 40 years of studies, meta-analyses have shown that workgroup
diversity can have a mixture of positive and negative effects on group functioning and
performance (Horwitz & Horwitz, 2007; Milliken & Martins, 1996; Webber &

Donahue, 2001). Theoretically, this is because diversity types can either negatively split a team according to biased subgroups with differently perceived social identifications or positively unite a team according to its capacity to share valuable diverse, task-relevant informational *'perspectives'* (Van Knippenberg et al, 2004).

In response to this 'mixed blessings' or 'double-edged sword' group diversity dilemma, a recent body of work has accumulated on exactly when and how diversity can be expected to help teams or not. It is generally accepted that different types of diversity produce different types of conflict and pan out in relatively more constructive or destructive ways (e.g. functional task overlaps can be constructive, whilst category differences and relationship conflict are relatively more destructive) (Jehn et al, 1999; Pelled et al, 1999). Still other research shows that individual differences amongst team members are important; it is beneficial if team members have more openness to experience and need for cognition (Homan et al, 2008; Kearney et al, 2009). Yet another stream of research identifies contextual moderators that help/hinder the process of using group diversity, including co-location, environmental uncertainty, and team/industry type (Cannella et al, 2008; Joshi & Roh, 2009).

In sum, the perspective taking indicators are a powerful explanatory addition to a recent body of work on diversity dimensions, and their respective effects on teamworking.

A practical implication arising particularly from studies 2 and 3 in this thesis is the need for managers to attend to the diverse composition of their workforce from many angles, and to create a culture where diversity is recognised in as flexible and useful a way as possible. Managers need to be bold in moving or shuffling diverse people around, and harnessing experts, experienced individuals, leaders/facilitators who can bring out diversity in imaginative, easy-to-understand ways (Ely & Thomas, 2001). In many ways, diversity sets the agenda for perspective taking and possible patterns of coordination. Managers need to design jobs, roles, divisions, and team interdependencies with this in mind. Compositions that create or draw attention to non-overlapping, inter-personal categories of culture, age, gender or other enduring experiences without any further support are likely to create discomfort and disengagement, if not hostility, stereotyping, and prejudicial beliefs (Clair et al, 2005).

Obviously sometimes certain compositions and formations are unavoidable if a little unfortunate, and then the responsibility shifts towards the workplace culture and the beliefs it forges through its diversity rhetoric and training (Pendry et al, 2007). The

aim being not to threaten people with hard-to-explain intractable differences, but trace overlapping, multi-faceted diversity to find valuable linkages with performance, recourse to a common mission or bigger picture, and a trusting confidence reinforced by relevant experiences (Van Knippenberg & Schippers, 2006).

From a formal legal perspective, there is a need to serve mutually exclusive societal groups, their rights to fair treatment, and reasonable provision of equal opportunities. But even here, the prevailing focus must still be on the primary contributions in the workplace and the underlying similarities (Kandola, 1995). An organisation that does not create these day-to-day relevancies via its culture and symbolic actions is lacking in the essential ingredients for perspective taking and ultimately performance. From a selection point of view, research is still ascertaining the exact characteristics that support diverse teams in their social coordination. People with diverse experiences are critical for key placements in diverse teams, as are those open to experience, high on need for cognition/complexity, conscientious, and agreeableness (Homan et al, 2008; Kearney et al, 2009; Neuman et al, 1999). Leadership, training, and development initiatives around these core values are likely to create an enthusiastic attitude of perspective taking towards diversity and the system. These compositions are likely to go a long way toward creating a culture that tolerates and downplays impenetrable surface differences in favour of relevant, constructive innovations and open linkages across teams for deeper, more confident inspirations.

Organisations may want perspective taking to influence their diversity management policies, rhetoric, and culture. One persistent bias with organisations' diversity policies is that they are typically very defensive – laying out guidelines for ensuring legal accountability, affirmative action, and equal opportunities to ensure assimilation (Kandola, 1995). As shown partly by this thesis, this isn't an entirely wholesome, proactive and comprehensive view for organisations to take. For example, many more differences potentially exist on this agenda – religious differences, ex-offenders, and various forms of disability (Clair et al, 2005). Whilst there is an important rhetoric here about justice and equal opportunities for the disadvantaged, trying to juggle and assimilate ever-expanding forms of diversity can tend to obscure the more positive sides of the issue.

Organisations might do better forming policies around ongoing learning, valuing of contributions, wider similarities, and diversity competences like perspective taking, rather than getting bogged down in incompatible group memberships (Ely & Thomas,

2001; Kandola, 1995). It is a focus on justice and right versus wrong that often leads diversity accounts into negative spirals of nay-saying and group-based entrenchment (Earley & Mosakowski, 2000). Language is very powerful, and a positive diversity emphasis that is proactive and focuses on positive talents will go a long way in pushing through successful policy in the workplace.

Continuing research in this area will want to simultaneously test other complementary concepts and/or competing measurable explanations alongside perspective taking. These might include information sharing, forms of team conflict, diversity beliefs/perceptions, different types of diversity composition, and other group norms (e.g. acknowledging skill complementarity, verifying important aspects of team members' self-concepts, conflict management norms) (Harrison & Klein, 2007; Hostager & De Meuse, 2002; Jehn, 1995; Oosterhof et al, 2009; Polzer et al, 2002). Positive attributions, which showed no direct associations with diversity in study 2, may play some other parallel role in diversity management in conjunction with these other correlates.

8.3 Strengths and Limitations of the Dissertation

This thesis contains studies that all use a survey self-report approach, albeit in quite different ways and with different measures and samples. In the respective chapters, each study has already been critiqued to an extent. In the following sections here, the studies' strengths and limitations are reviewed concisely as a whole, with some suggestions for alternative and follow-up research.

8.3.1 Cross-Sectional Self-Report Measures

All the studies in this thesis predominantly relied on self-report measures for independent variables and outcomes. This leaves the studies open to criticisms of common method bias – the idea that using the same method could be creating an alternative explanation for the study relationships, particularly the cross-sectional study 3, where participants were given one method at one time point, meaning that the method chosen dominates the study results to a certain extent (Podsakoff et al, 2003).

The studies all assessed behavioural and distal outcomes in terms of self-perceptions alone, at times simplifying complex constructs, particularly team performance in study 3. Without research replicating the relations of this thesis using other parties' perceptions of behaviours or more objective, observable data sources, the

nature of these percept-percept associations will remain problematic; vulnerable to subjective biases as alternative explanations (e.g. social desirability), ambiguous, and somewhat one-sided. This is a concern not just with outcomes, but for perspective taking itself, self-reports of which have often been shown not to converge particularly well with other-source measures like dyadic partner ratings, suggesting that individual's self-perceptions may be vulnerable to weak validity (Ickes, 2003). Multi-method field studies, convergent measures, supervisor/co-worker ratings, and experimental designs measuring observable behaviours can therefore help to raise confidence in, challenge, or refine some of this thesis' key findings.

Insofar as self-reports were used, the studies took pains to clearly specify constructs referencing team members and their interactions. The validity of the studies depends on the availability of alternative methods, the statistical use of measures and control variables, the study design and the procedural implementation of the method. These points are discussed below.

Study 1a was purely a measurement study, specifically directed at distinguishing self-report measures, with less need of a multi-method approach to meet its aims and objectives. In the case of study 1b, it was prosocial, cooperative behaviours of team members that were the focus rather than individual performance metrics. In study 2, the use of objective team performance measures could have potentially overlooked and neglected the main focus, which was on team functioning and the specific processes associated with finding value in diversity. The MBA project teams completed multiple tasks and received fairly broad grades all above pass level, which doesn't necessarily shed light on *how* diversity is managed and corresponding intermediate outcomes. In the case of study 3, there were not many obvious informants for team outcomes who were overseeing the teams themselves. The hierarchy of authority was complex, and often single leaders were quite distant from specific teams and not close enough to have accurate, discriminating knowledge of them.

For all the studies, self-report surveys were logistically efficient to conduct with large numbers and had high face validity with the organisations, making the studies more viable in the first place. In study 2 and study 3, the team diversity indices and varying referents did constitute a slightly alternative measurement approach with a more objective and discriminating focus. Ideally, using ratings other than self-ratings (e.g. team supervisor ratings) would have strengthened the predictive validity and multi-

method support of the findings, but the steps described here mean that common method bias was unlikely to be a major threat in biasing the relationships found.

In each study, I took careful statistical steps to control for important 'marker variables' that might have biased study relationships. These included personality tendencies and teamworking experiences, as well as shared contextual and environmental features of the workplace. Controlling for all these variables makes it harder to explain how an artefact of the surveys or completely unidentified third variables could have biased relationships in particular directions. The studies also psychometrically distinguish each measure used via factor analytic techniques (particularly the multiple cross-validating samples in study 1a and the large team-level validated sample in study 3). These analyses showed statistically that the respondents were differentiating between constructs, that the study was tracking relationships as designed, and that the respondents weren't blindly following the measurement method itself in a unitary fashion (Podsakoff & Organ, 1986).

Each study also took important procedural steps in the ways the self-report surveys were administered to avoid biasing mono-method correlation conditions (Podsakoff et al, 2003). It could be argued that many of the constructs were clearly socially desirable and surveys would have strongly biased responses in a particular direction. However, the normal distributions and ranges of all the study variables indicated a sufficient variability in responses. In studies 1 and 2, surveys were separated by time point, and even in study 3, the survey was completed with a break in the middle. All the measures were part of larger projects and were included alongside a wide array of other survey questions, with no obvious agenda for respondents to link particular concepts together under the umbrella of the survey method.

Given these methodological and statistical precautions, and the distinctive array of confirmed findings in the thesis, it is unlikely there was a strong bias overshadowing accurate measurement of the relations between constructs. Common method variance is often over-exaggerated, and as of yet, there is no idealistic way to counter for its presence in organisational field research (Richardson, Simmering, & Sturman, 2009; Spector, 2006). Nonetheless, it is a general weakness of this thesis that all the studies were almost exclusively survey self-report. Two improvements on the validity of thesis findings in this area would be to use alternative methodologies and more controlled or longitudinal study designs.

Whilst surveys are a flexible, efficient way of assessing naturalistic perspective taking tendencies in field settings, as a method they are somewhat lacking in precision, vividness and control. Other research projects on perspective taking may want to assess the convergent validity of the models in this thesis using alternate methodologies that offset some of these weaknesses, and also dedicatedly measure perspective taking *accuracy*, as well as active motivation and perceived effectiveness (Parker et al, 2008). For example, examining workplace dyads or pairs (e.g. doctors and patients) and getting them to code/rate each other's behaviours for empathic communication helps to assess perspective taking in a more mutual ongoing fashion, and to identify more fine-grained signs and sequences of behaviours (Kenny et al, 2006; Silvester et al, 2007). Cognitive mapping is also a useful tool for getting rich diagrammatical representations of sample-specific perspectives – numbers of concepts, positive/negative valences of concepts, numbers of links, directions of links, and valences of links etc (Hodgkinson et al, 1999). These maps can then be verified by other parties, and analysed qualitatively and/or quantitatively in their components.

Organisational laboratory studies are superior for eliminating the unmeasured variables problem more conclusively than in the field, for making well-defined theoretical contributions, establishing causality and measuring actual behaviour (Colquitt, 2008). This thesis had one longitudinal causal study (study 1b) which showed in a general way that perspective taking can drive prosocial behaviours over time. However, more precise causal testing of perspective taking over different time frames and events is desirable. Laboratory studies can identify whether workplace-type training and interventions can be successful in increasing perspective taking engagement. Thus far we know that simple instructions and audiovisual stimuli can have beneficial effects (Galinsky et al, 2005), but we know much less about how long these effects last, how generalisable they are, and what behaviours they best promote.

One workplace study attempted a group training intervention based around eliciting and sharing values, but this had no discernible effect (Sessa, 1996). Computer programs simulating globalised business or value-based dilemmas, run with groups of business students, have been more successful at promoting confident, motivated perspective taking over time, but evidence is still somewhat anecdotal rather than systematic (Bos et al, 2006; Gehlbach et al, 2008). Nonetheless, computer simulations provide quite a richly stimulating, flexible, non-threatening way to introduce challenging perspective taking situations, and as a methodology, are already being used

to combat the classic perspective taking deficits of autistic individuals (Moore, McGrath, & Thorpe, 2000). The same goes for a wealth of practical and diversity training exercises that purport to promote perspective taking; but there is thus far a dearth of careful quantitative evaluation evidence (Johnson, 2000; Pendry et al, 2007).

8.3.2 Secondary Data and Generalisability of Samples

In the thesis I draw from two main sampling contexts: executive MBA project teams and teams in a British naval military context. An important strength of the thesis as a whole is that these two samples complement and corroborate each other relatively well. The MBA teams were relatively short-term in lifespan with people from all over the world brought together for a year-long course, whereas the Navy teams were longer-term, and nested in a real organisation. The Navy sample was much less culturally diverse (a very strong white British male majority), and the work was relatively more procedural and prescribed in an everyday sense than the more autonomous, uncertain, international project-based tasks on the MBA. Nevertheless, both samples faced high social coordination demands to work together, the opportunities and challenges of focusing on salient perspectives, and requirements that people engage in complex decision-making tasks.

MBA samples have been ruled as yielding ecologically/externally valid findings for generalising towards other workplace populations (Bello, Leung, Radebaugh, Tung, & van Witteloostuijn, 2009). In contrast with undergraduate student samples, MBA candidates bring a wealth of real-life managerial experiences to bear on their work. The main recommendations in using such samples are to make a case for testing specific theoretical propositions and to replicate findings where possible (Bello et al, 2009). The theory in this thesis does hone in on relevant conceptual issues specific to teamworking, diversity, and cooperation that match onto the samples. This thread throughout makes it clear which populations the research might extend to. Any organisation with diverse teams, cross-functional project teams, and/or a multi-team system should expect these findings to map onto their working realities. Furthermore, given the increasing emphasis on workplace inclusion, human rights, and globalised issues, as well as the robust popularity of cooperative teamworking, the scope of this relevance is considerable (Van Knippenberg & Schippers, 2006).

Having said this, the samples suffer from two main weaknesses in external validity. One concerns the relative restriction of range for predominantly positive

concepts in positive samples (i.e. MBA teams are expected to work together and pass their projects together; the Navy are expected to be highly cohesive and teamwork is a strong positive value in the military). The other concerns the fact that the MBA team sample was drawn from secondary data, restricting the kinds of questions that could be investigated.

In terms of restriction of range, although variables had fairly good spread, it was typical of means on reported levels of perspective taking, team norms, and prosocial behaviours to be above the mid-point of the scale. This means that the studies can be extended via parallel work carried out in more extreme conditions, and/or particularly striking case studies. It may be that in some contexts diverse compositions, boundaries, and factions are extremely prohibitive and perspective taking is not in evidence at all. It may also be that under strong time pressures and against a backdrop of power differentials, certain individuals pretend to perspective take, don't do it properly, or sometimes decide it's not important (Epley, 2008; Galinsky et al, 2006).

This moves into the second point, which is that the MBA dataset was a secondary one, where the focus of the original project was very much about cooperative, confident, motivated groups of experienced people working together closely. The Navy study was primary data collected in part exclusively for this thesis, and thus was able to look a bit more closely at difficult targets outside a team. However, the focus or mandate of the work was still to take effective, cooperative teamwork as a starting point in many ways. In conclusion, there is an importance to replicating and extending the work of this thesis in other samples and populations, particularly in contexts that put teamwork, diversity management, and perspective taking under threat.

For example, virtual teams and multinational organisations are prone to misunderstanding of viewpoints due to challenges with building trust over distances, appreciating shared context, and using different technologies (Hinds & Mortensen, 2005; Zellmer-Bruhn & Gibson, 2006). Collectivistic cultured individuals are better at spatial, object-based perspective taking tasks in the laboratory than those from more individualistic, Western cultures (Wu & Keysar, 2007). However, applied research on how perspective taking norms systematically vary across cultures is lacking thus far. In this thesis I have developed measures that can be used systematically in many samples, and studying effective teamwork as a case in point, but there are still many other climates, populations, and extreme conditions to be potentially compared in the future.

8.4 Conclusion

I have sought to make several key contributions to the field of organisational psychology in this thesis. Firstly, by clearly defining the fundamental social process of perspective taking amongst team members; taking a situational, indicator approach. Secondly, by exploring processes that explain how perspective taking occurs in workplace interactions. Thirdly, I link perspective taking to prosocial, effective teamwork states and behaviours. Fourthly, I show when and where perspective taking is likely to ensure the most successful work outcomes. Finally, I show that perspective taking is a key link between patterns of team diversity and relevant team outcomes. Taken together, these contributions provide key insights into how and when viewpoints can be successfully coordinated throughout the diverse social system of a complex organisation.

SURVEY ON PROMOTING EFFECTIVE EY STUDY TEAMS
(Used in Studies 1a/1b/2)

What is this survey?
This survey is part of a project conducted by researchers within the university to investigate how your project group works as a team. The survey asks you to tell us about you, your background, and your views about your team. We also ask about your personal style and your goals so that we can see if these factors affect how teams work. The survey also focuses on how your team is functioning.

The information gathered from the project will be used to help the EY teams in your cohort identify how to enhance their effectiveness, and design future EY study teams and workplace teams effectively. **NO INDIVIDUAL OR TEAM WILL BE IDENTIFIED** in the discussions, reports, or publications on this survey.

How do I fill in the survey?
 - There are no "right" or "wrong" answers to the questions. We simply want to know your views on issues raised in the survey. Please answer all the questions as openly as possible.
- There are instructions at the top of each section. Read carefully before you begin answering questions in each section.
- Please answer EVERY question.
- Please complete the survey INDIVIDUALLY without discussing your answers with others. This is the case for questions about the team too, as we are interested in the response from each team member separately.
- For each statement you are asked, please tick or cross ONE response (unless you are asked for additional responses) which BEST fits your views. Respond according to your first reaction.

How long will the survey take?
- The survey should take approximately 20 to 30 minutes to complete.

What will happen to my answers?
The information you give is **STRICTLY CONFIDENTIAL. YOU WILL NOT BE ABLE TO BE IDENTIFIED IN THE FEEDBACK** as all results will be aggregated.

Do I get any feedback?
- Feedback on the overall results of the survey will be made available about halfway through the year.
- The feedback will help you improve the way your team functions.

Royal Navy Team Survey
(Used in Study 3)

Thank you for taking part in this confidential survey – your time and effort are very much appreciated.

What is this survey about?
This survey asks you about a wide range of issues that are important for your work life and team effectiveness. It is divided into 2 sections, which should each take approximately 15-20 minutes to complete.
This research is endorsed by the Chief of Staff and Personnel Strategy, as well as being approved by the ethics committee.

Who will see my answers?
The information that you provide is <u>totally confidential</u>. Only consultants from the University of Sheffield will see your individual responses. The findings will be analysed and reported in such a way that it will not be possible for you to be identified and the Royal Navy will not have access to any completed surveys.

How do I fill in the survey?
We are interested in your views about your current job. Please be honest. There are no "right" or "wrong" answers; it is your views that are important. Please read each question carefully and ensure that you <u>answer all questions.</u> For each question, please circle the number that best fits your views. If an option does not exactly fit your view, please circle the number that is most similar.

Final Self-Report Survey Scales and Items for all Studies in Full

Table A.1 Scales and Items for Studies 1a and 1b

Scale/Items (Studies 1a and 1b)	Response Anchors
Trait perspective taking -Before criticising somebody, I try to imagine how I would feel if I were in their place - I sometimes try to understand my friends better by imagining how things look from their perspective - When I'm upset at someone, I usually try to "put myself in his shoes" for a while	1 'Strongly disagree' 2 'Disagree' 3 'Neutral' 4 'Agree' 5 'Strongly agree'
Trait empathic concern - I often have tender, concerned feelings for people less fortunate than me - I would describe myself as a pretty soft-hearted person - I am often quite touched by things that I see happen	1 'Strongly disagree' 2 'Disagree' 3 'Neutral' 4 'Agree' 5 'Strongly agree'
Situational team member perspective taking: effort - I try hard to see things from other team members' perspectives, even when my views are different from theirs - When disputes arise in the team, I try to understand the feelings of those involved - If conflicting opinions are put forward, I try to understand the reasoning and thought processes behind them - When my team members hold views that contrast with my own, I try to understand why they think as they do	1 'Strongly disagree' 3 'Neutral' 5 'Strongly agree'

Scale/Items (Studies 1a and 1b)	Response Anchors	
Situational team member perspective taking: empathic concern	1 'Strongly disagree'	
- I feel concerned for my team members if they are under pressure	3 'Neutral'	
- I feel compassion towards my team members when they are experiencing problems	5 'Strongly agree'	
- It distresses me when my team members have personal difficulties		
Situational team member perspective taking: positive attributions	1 'Strongly disagree'	
- My team members are doing the best they can, given their circumstances	3 'Neutral'	
- If members of my team make mistakes, it's usually not their fault	5 'Strongly agree'	
- If my team members fall behind, it is usually due to their tough circumstances		
- When team members don't contribute much, it's usually because of factors outside their control		
Teamwork experience: 'how much experience do you have in...'?	1 'Never'	
- Leading/managing a team	5 'A lot'	
- Working in teams of multiple departments/functions		
- Working in teams of multiple training/education areas		
- Working in teams of diverse cultures		
Preference for teamwork	1 'Strongly disagree'	
- If given the choice, I would prefer to work as part of a team rather than work alone	3 'Neutral'	
- I find that working as a member of a team increases my ability to perform effectively	5 'Strongly agree'	
- I generally prefer to work as part of a team		
Dispositional self-esteem	1 'Strongly disagree'	4 'Agree'
- I feel I have a number of good qualities	2 'Disagree'	5 'Strongly agree'
- I can do things as well as most people	3 'Neutral'	

Scale/Items (Studies 1a and 1b)	Response Anchors
Perceived task interdependence	1 'Strongly disagree'
- I work closely with others in my team	3 'Neutral'
- I frequently must coordinate my efforts with others in the team	5 'Strongly agree'
- Teamwork requires me to consult with others in the team fairly frequently	
Perceived task interdependence (continued)	1 'Strongly disagree'
- I frequently discuss ideas about teamwork with other team members	3 'Neutral'
- The way I perform my tasks has a significant impact on others in the team	5 'Strongly agree'
Role clarity	1 'Never'
- I have clear, planned goals and objectives that guide my contribution	3 'Some of the time'
- I know what my responsibilities are	5 'All of the time'
- I know exactly what is expected of me	
Helping	1 'Strongly disagree'
- I help other team members if they fall behind in their work	3 'Neutral'
- I willingly give time to help team members who have work-related problems	5 'Strongly agree'
- I encourage other team members when they are feeling down	
Conflict management	1 'Never'
- Are personal disagreements usually resolved?	3 'Some of the time'
- Are conflicts constructively dealt with?	5 'All of the time'
- Are differences of opinion worked through in a useful way?	

Table A.2 Scales and Items for Study 2

Scale/Items (Study 2)	Response Anchors
Teamwork experience: 'how much experience do you have in...'? - (See above; Table A.1)	1 'Never' 5 'A lot'
Cultural background diversity **-**Australasia -Africa -North Europe -South Europe -Middle East -South Asia -East Asia -Mixed -Other	(Tick one option)
Scale/Items (Study 2)	**Response Anchors**
Intrapersonal functional diversity (Do you have expertise in the following functional areas?) - Accounting -Corporate/public relations -Finance -General management -HRM -Information technology -Legal -Marketing -Operations -Sales -Research and development -Other	Yes/No for each option
Situational team perspective taking: effort, empathic concern, positive attributions - (See above; Table A.1)	1 'Strongly disagree' 3 'Neutral' 5 'Strongly agree'
Team potency - My team has confidence in itself - My team expects to be known as a high-performing team - My team believes it can be very productive	1 'To no extent' 3 'To some extent' 5 'To a great extent'
Team reflexivity - We regularly take time to figure out ways to improve our team's work processes - My team frequently seeks new information that leads us to make important changes - In this team, someone always makes sure that we stop to reflect on the team's work processes	1 'Strongly disagree' 3 'Neutral' 5 'Strongly agree'

Table A.3 Scales and Items for Study 3

Scale/Items (Study 3)	Response Anchors
Intra-team/inter-team perceived understanding - For the following groups of people, how well do you know HOW THEY THINK at work (e.g. their priorities, language, and the knowledge and skills they use)? -Your own team -Other teams on your ship	1 'Not at all' 5 'A great deal'
Scale/Items (Study 3)	Response Anchors
- For the following groups of people, how well do you know HOW THEY FEEL at work (e.g. their moods and attitudes at work)? -Your own team -Other teams on your ship	1 'Not at all' 5 'A great deal'
Task information elaboration - Team members exchange a lot of information about a task - Team members often talk about a task so that others think differently about it - Team members often say things that lead the team to new ideas	1 'Strongly disagree' 5 'Strongly agree'
Team helping - Team members tend to help each other if they fall behind on their work - Team members tend to encourage other team members if they are down - Team members try to act like a peacemaker if other members have disagreements	1 'Strongly disagree' 5 'Strongly agree'
Team performance: How would you describe your team's performance? - Our level of performance - Achieving goals - Meeting deadlines - Our productivity - Meeting expected standards	1 'Well below requirements' 2 'Below requirements' 3 'At requirements' 4 'Above requirements' 5 'Requirements greatly exceeded'

Scale/Items (Study 3)	Response Anchors
Team morale (The morale of a team is difficult to put into words, but some people describe it as when a team has "the sense of purpose which persuades them to fight and win") - My team has the courage to work through any physical or mental problem - My team has the commitment to fight and win under any circumstances - My team can persist and take action under any difficult situation - If facing a life or death situation, my team would have the commitment and capability to work together - My team has the courage to fight and kill the enemy - When in dangerous situations, my team will have a strong fighting spirit	1 'Strongly disagree' 5 'Strongly agree'

**Study 1b Cross-Lagged Structural Model Tests in Full: Team Member Perspective
Taking Indicators and Team Member Outcomes**
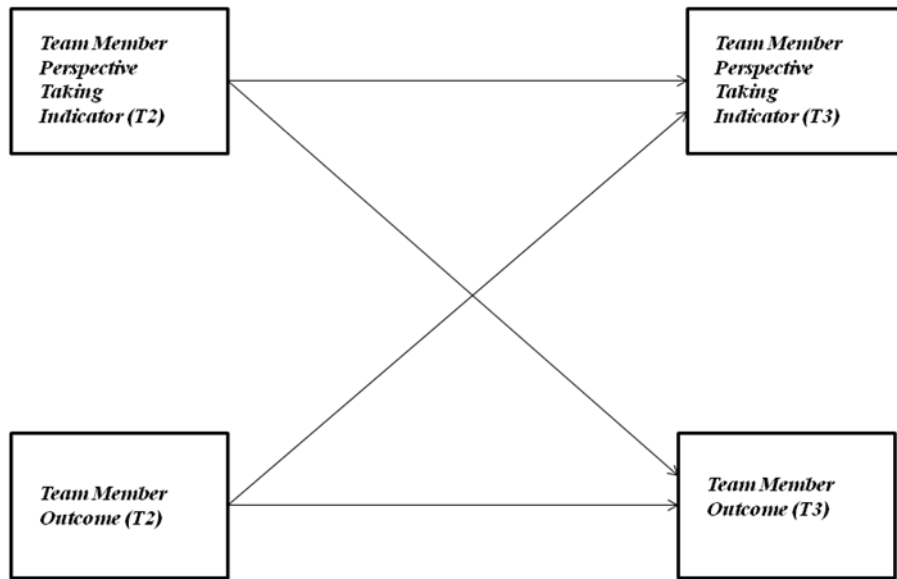
Model	Descriptive Label
A	Full or saturated model; perspective taking and reverse effects
B	No reverse causality; perspective taking effects only
C	No causality either direction; just variables effects on themselves
D	Null model – variables uncorrelated, no causal

Note: AB comparison tests for significance of reciprocal paths (outcome-perspective taking); BC comparison tests for significance of perspective taking paths (perspective taking- outcome)

$\Delta\chi^2$ on 1 degree of freedom = 3.84 (p<0.05), 6.64 (p<0.01)

Table A.4 Cross-Lagged Panel SEM of Perspective Taking Positive Attributions and Role Clarity (T2 & T3)

Model	Descriptive Label	χ^2	df	ΔNFI	CFI	RMSEA	SRMR	$\Delta\chi^2$
A	Full or saturated	134.33	71	0.008	0.964	0.065	0.053	
B	No reverse causality	136.60	72	0.013	0.964	0.065	0.058	2.27
C	No causality either direction	140.69	73	0.524	0.962	0.066	0.073	4.09*
D	Null model – uncorrelated	295.33	77	____	0.877	0.116	0.243	

n = 210 **p<0.01; *p<0.05

Table A.5 Cross-Lagged Panel SEM of Perspective Taking Empathic Concern and Role Clarity (T2 & T3)

Model	Descriptive Label	χ^2	df	ΔNFI	CFI	RMSEA	SRMR	$\Delta\chi^2$
A	Full or saturated	87.74	48	0.016	0.973	0.062	0.045	
B	No reverse causality	91.84	49	0.067	0.971	0.064	0.053	4.10*
C	No causality either direction	108.85	50	0.569	0.961	0.074	0.090	17.01**
D	Null model– uncorrelated	252.34	54	____	0.867	0.131	0.250	

n = 213 **p<0.01; *p<0.05

Table A.6 Cross-Lagged Panel SEM of Perspective Taking Effort and Role Clarity (T2 & T3)

Model	Descriptive Label	χ^2	df	ΔNFI	CFI	RMSEA	SRMR	$\Delta\chi^2$
A	Full or saturated	225.69	71	0.023	0.918	0.102	0.067	
B	No reverse causality	233.63	72	0.033	0.914	0.103	0.084	7.94**
C	No causality either direction	244.86	73	0.296	0.908	0.106	0.103	11.23**
D	Null model– uncorrelated	348.03	77	____	0.856	0.129	0.238	

n = 210 **p<0.01; *p<0.05

Table A.7 Cross-Lagged Panel SEM of Perspective Taking Positive Attributions and Helping (T2 & T3)

Model	Descriptive Label	χ^2	df	ΔNFI	CFI	RMSEA	SRMR	$\Delta\chi^2$
A	Full or saturated	166.14	71	0.002	0.948	0.082	0.064	
B	No reverse causality	166.94	72	0.001	0.948	0.081	0.065	0.80
Model	Descriptive Label	χ^2	df	ΔNFI	CFI	RMSEA	SRMR	$\Delta\chi^2$
C	No causality either direction	167.61	73	0.674	0.948	0.081	0.066	0.67
D	Null model – uncorrelated	514.11	77	____	0.759	0.168	0.362	

n = 209 **p<0.01; *p<0.05

Table A.8 Cross-Lagged Panel SEM of Perspective Taking Empathic Concern and Helping (T2 & T3)

Model	Descriptive Label	χ^2	df	ΔNFI	CFI	RMSEA	SRMR	$\Delta\chi^2$
A	Full or saturated	132.41	48	0.043	0.949	0.093	0.052	
B	No reverse causality	153.60	49	0.004	0.937	0.103	0.076	21.19**
C	No causality either direction	155.26	50	0.682	0.937	0.102	0.081	1.66
D	Null model– uncorrelated	488.98	54	____	0.739	0.200	0.380	

n = 210 **p<0.01; *p<0.05

Table A.9 Cross-Lagged Panel SEM of Perspective Taking Effort and Helping (T2 & T3)

Model	Descriptive Label	χ^2	df	ΔNFI	CFI	RMSEA	SRMR	$\Delta\chi^2$
A	Full or saturated	225.21	71	0.041	0.920	0.104	0.067	
B	No reverse causality	245.37	72	0.006	0.910	0.109	0.087	20.16**
C	No causality either direction	248.15	73	0.485	0.909	0.109	0.094	2.78
D	Null model– uncorrelated	481.59	77	____	0.790	0.161	0.322	

n = 209 **p<0.01; *p<0.05

Table A.10 Cross-Lagged Panel SEM of Perspective Taking Positive Attributions and Conflict Management (T2 & T3)

Model	Descriptive Label	χ^2	df	ΔNFI	CFI	RMSEA	SRMR	$\Delta\chi^2$
A	Full or saturated	141.33	71	0.011	0.965	0.069	0.063	
B	No reverse causality	145.63	72	0.006	0.964	0.070	0.075	4.30*
C	No causality either direction	148.23	73	0.628	0.963	0.071	0.084	2.60
D	Null model – uncorrelated	398.02	77	____	0.841	0.142	0.316	

n = 210 **p<0.01; *p<0.05

Table A.11 Cross-Lagged Panel SEM of Perspective Taking Empathic Concern and Conflict Management (T2 & T3)

Model	Descriptive Label	χ^2	df	ΔNFI	CFI	RMSEA	SRMR	$\Delta\chi^2$
A	Full or saturated	68.58	48	0.072	0.988	0.045	0.033	
B	No reverse causality	92.20	49	0.020	0.975	0.065	0.079	23.62**
C	No causality either direction	98.60	50	0.696	0.972	0.068	0.095	6.40*
D	Null model– uncorrelated	324.25	54	____	0.846	0.155	0.318	

n = 211 **p<0.01; *p<0.05

Table A.12 Cross-Lagged Panel SEM of Perspective Taking Effort and Conflict Management (T2 & T3)

Model	Descriptive Label	χ^2	df	ΔNFI	CFI	RMSEA	SRMR	$\Delta\chi^2$
A	Full or saturated	194.78	71	0.023	0.941	0.092	0.058	
B	No reverse causality	203.85	72	0.011	0.937	0.094	0.076	9.07**
C	No causality either direction	208.40	73	0.476	0.935	0.094	0.088	4.55*
D	Null model – uncorrelated	397.55	77	____	0.847	0.141	0.278	

n = 214 **p<0.01; *p<0.05

Figure A.1 Self Esteem (T1), Team Member Perspective Taking Positive Attributions (T2) and Role Clarity (T3)
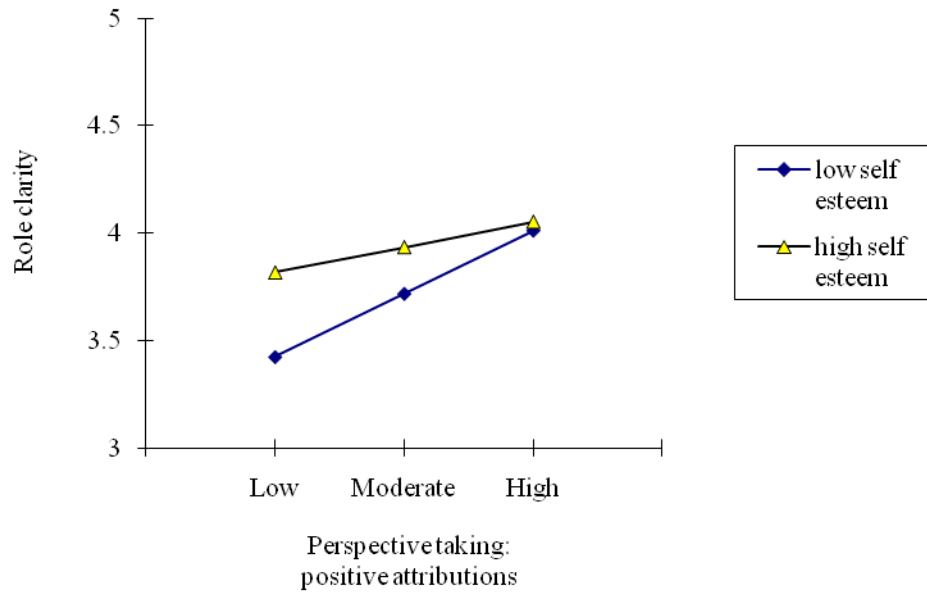
Figure A.2 Self Esteem (T1), Team Member Perspective Taking Effort (T2) and Role Clarity (T3)
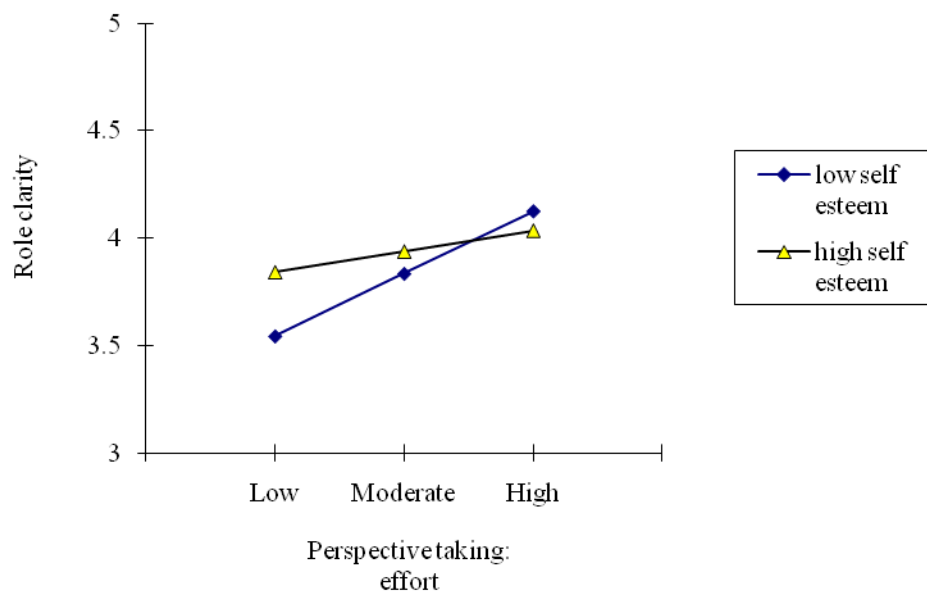
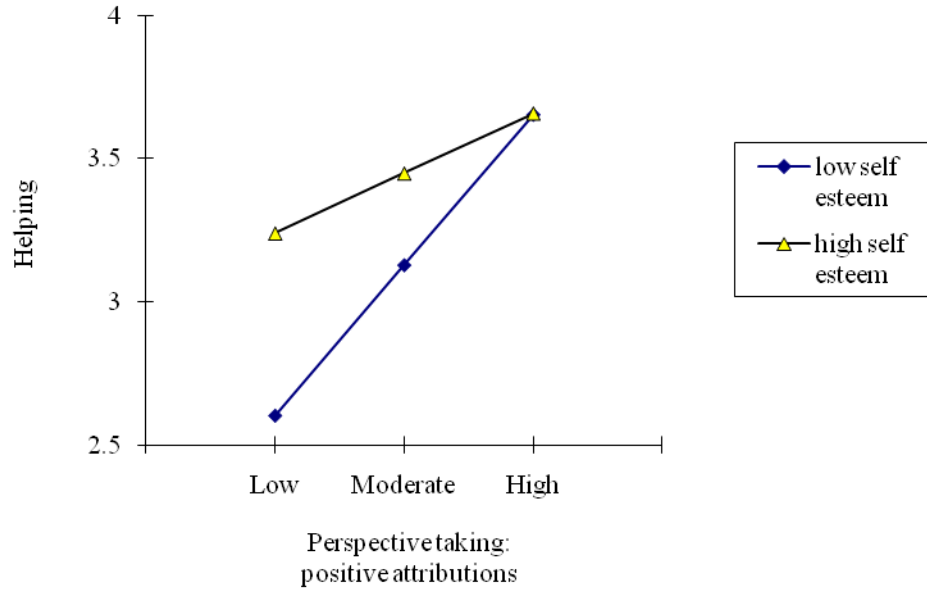Figure A.3 Self Esteem (T1), Team Member Perspective Taking Positive Attributions (T2) and Helping (T3)

Figure A.4 Self Esteem (T1), Team Member Perspective Taking Empathic Concern (T2) and Helping (T3)
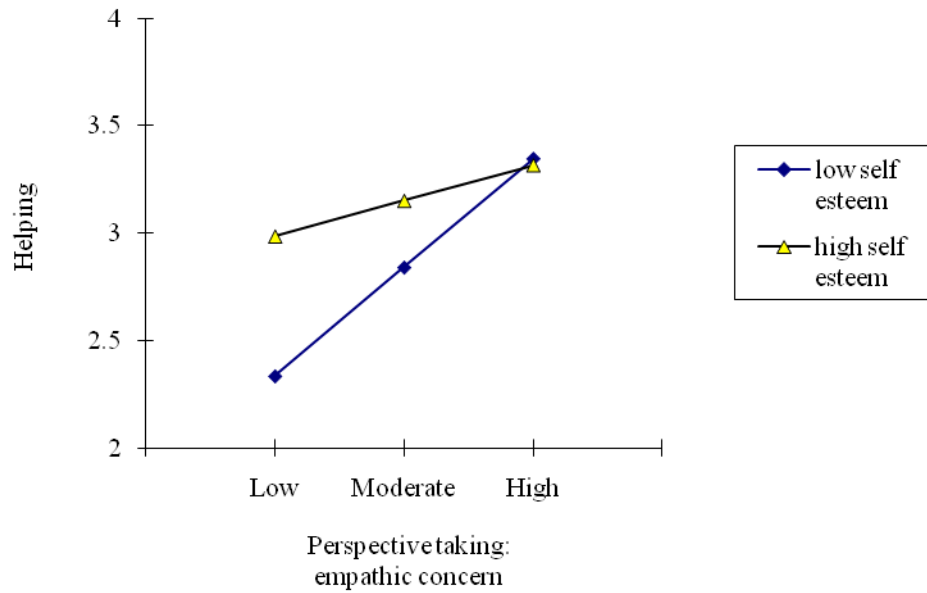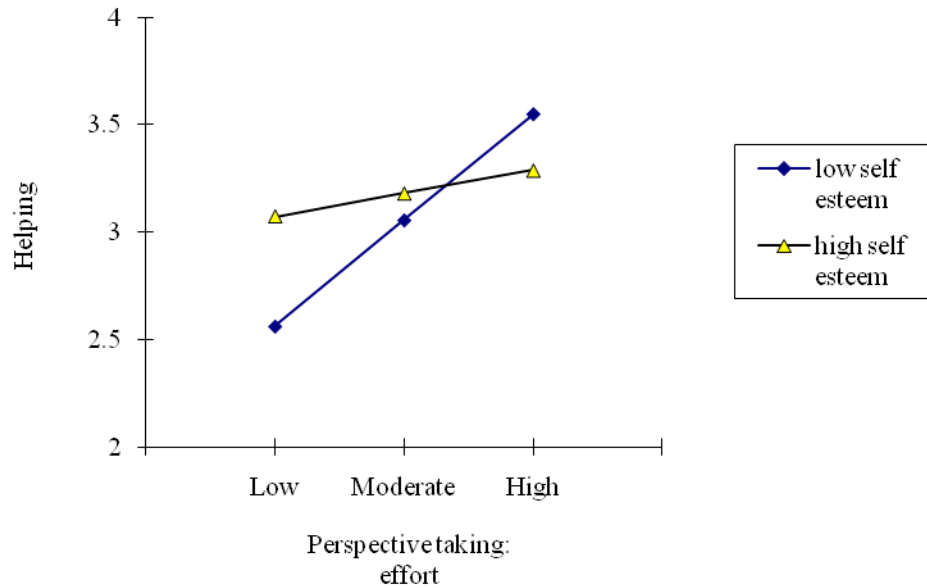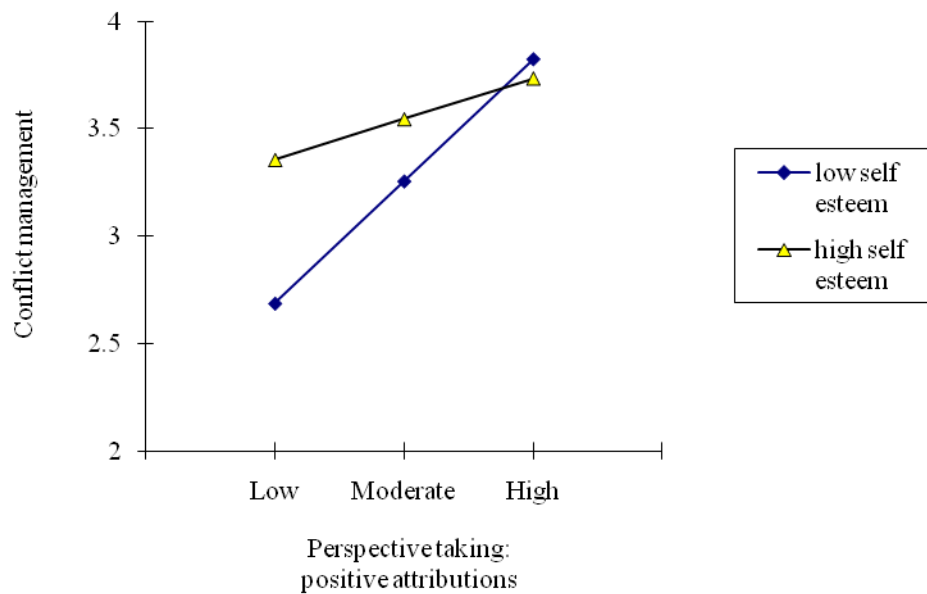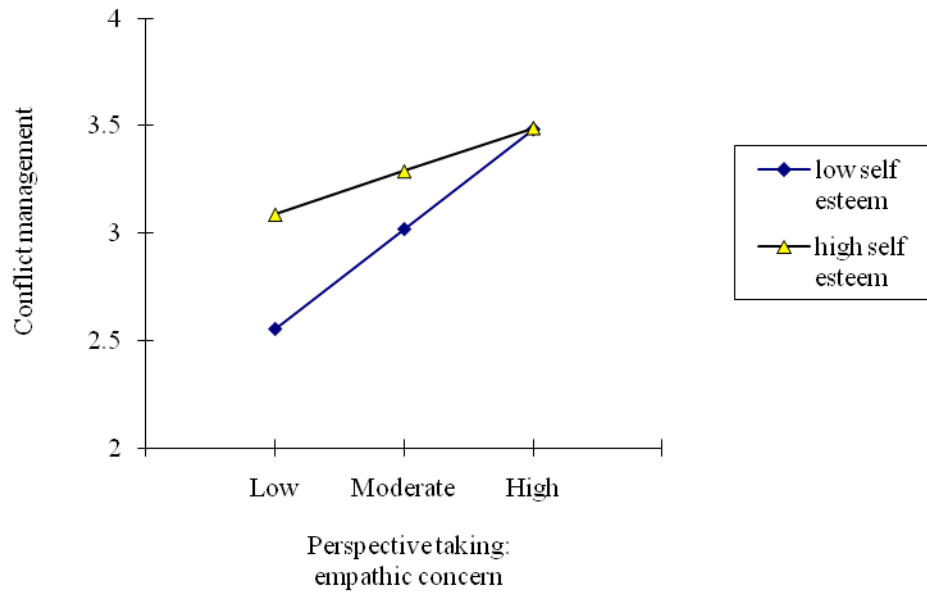
Figure A.5 Self Esteem (T1), Team Member Perspective Taking Effort (T2) and Helping (T3)

Figure A.6 Self Esteem (T1), Team Member Perspective Taking Positive Attributions (T2) and Conflict Management (T3)

Figure A.7 Self Esteem (T1), Team Member Perspective Taking Empathic Concern (T2) and Conflict Management (T3)

Figure A.8 Self Esteem (T1), Team Member Perspective Taking Effort (T2) and Conflict Management (T3)
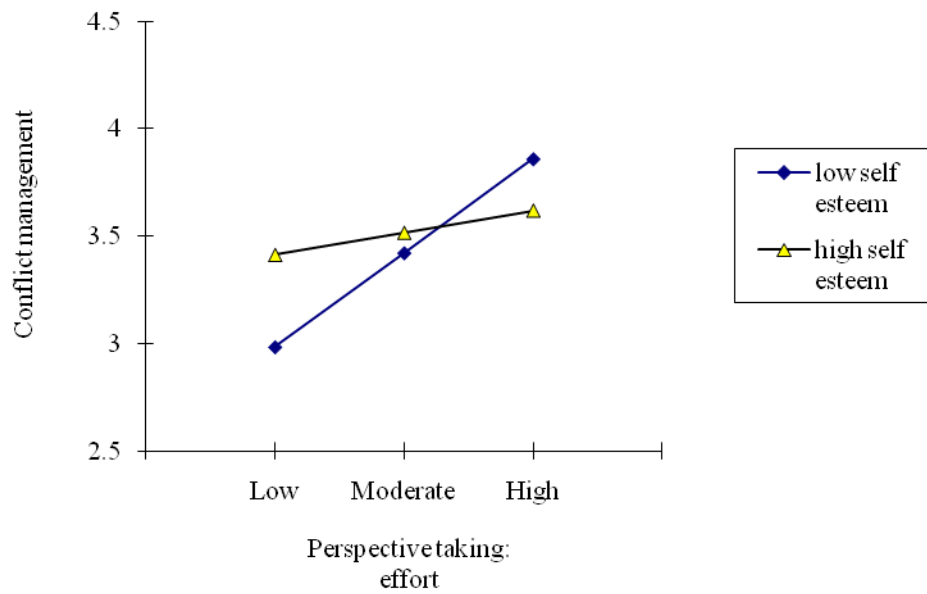
Figure A.9 Task Interdependence (T1), Team Member Perspective Taking Empathic Concern (T2) and Role Clarity (T3)
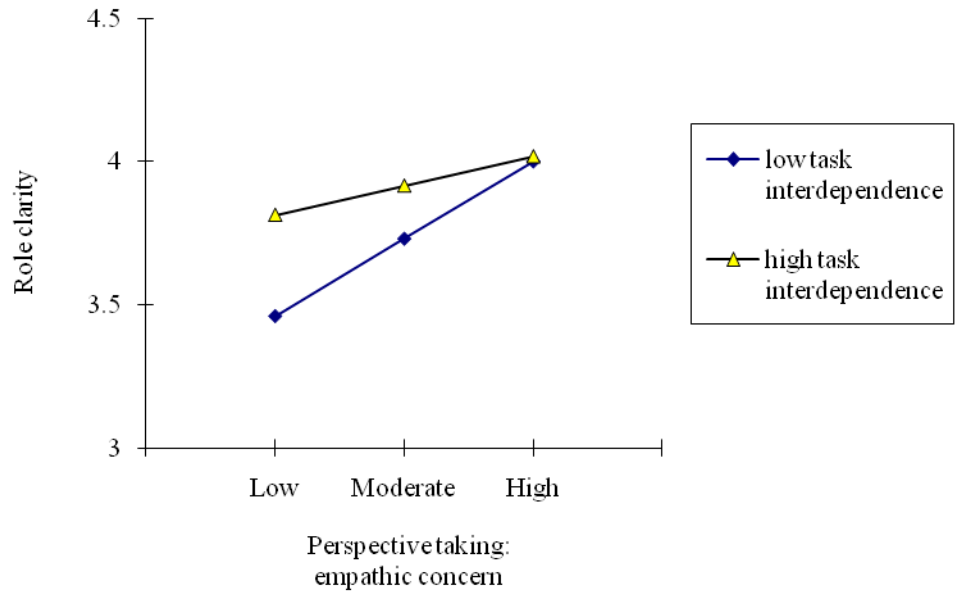

Figure A.10 Task Interdependence (T1), Team Member Perspective Taking Effort (T2) and Role Clarity (T3)
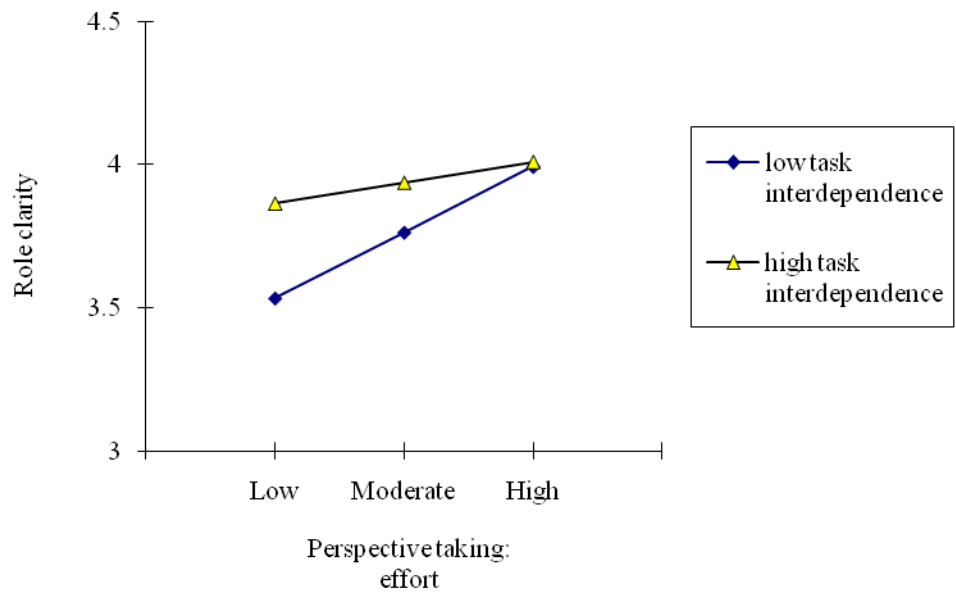
Figure A.11 Task Interdependence (T1), Team Member Perspective Taking Positive Attributions (T2) and Helping (T3)
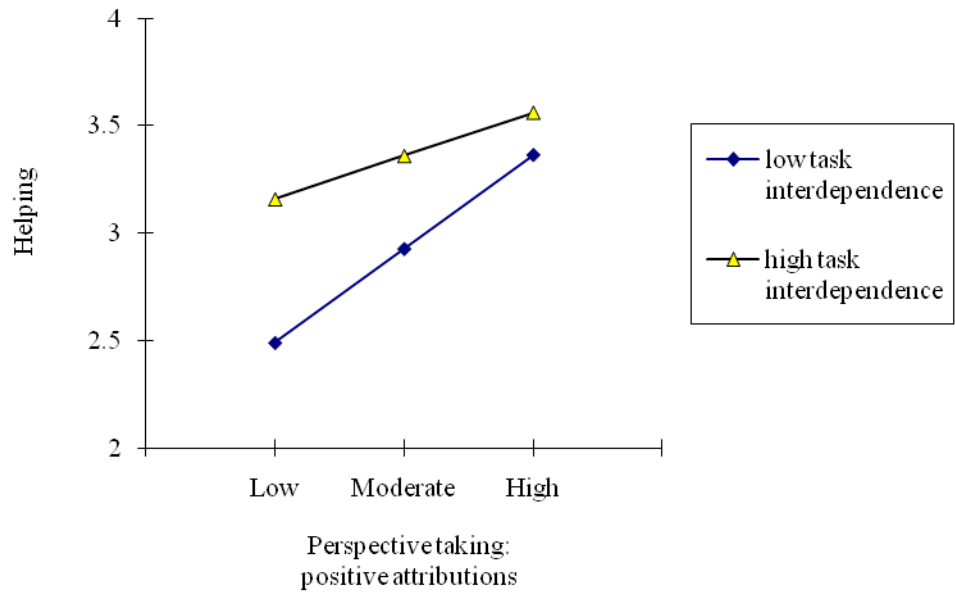

Figure A.12 Task Interdependence (T1), Team Member Perspective Taking Empathic Concern (T2) and Helping (T3)
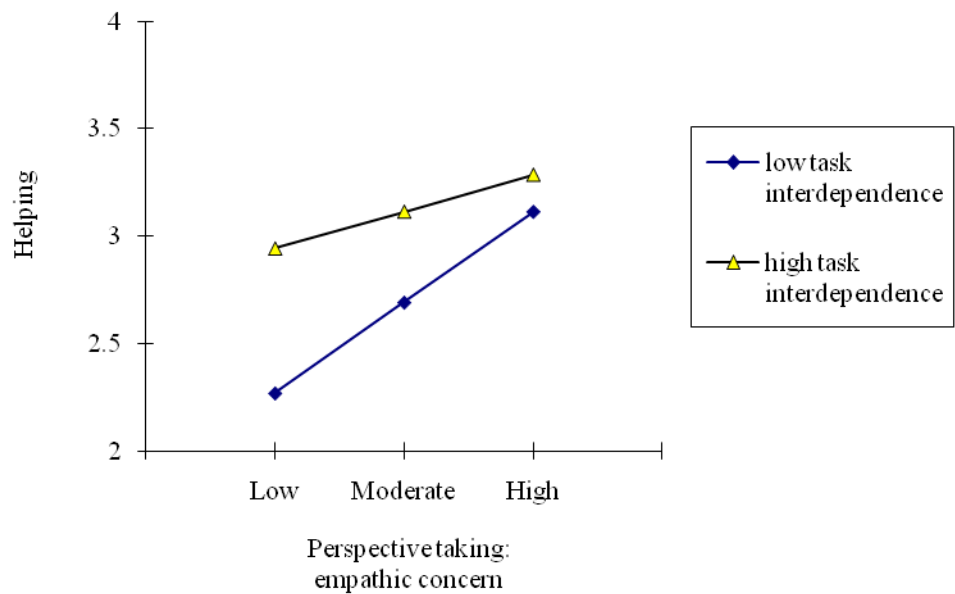
Figure A.13 Task Interdependence (T1), Team Member Perspective Taking Positive Attributions (T2) and Conflict Management (T3)
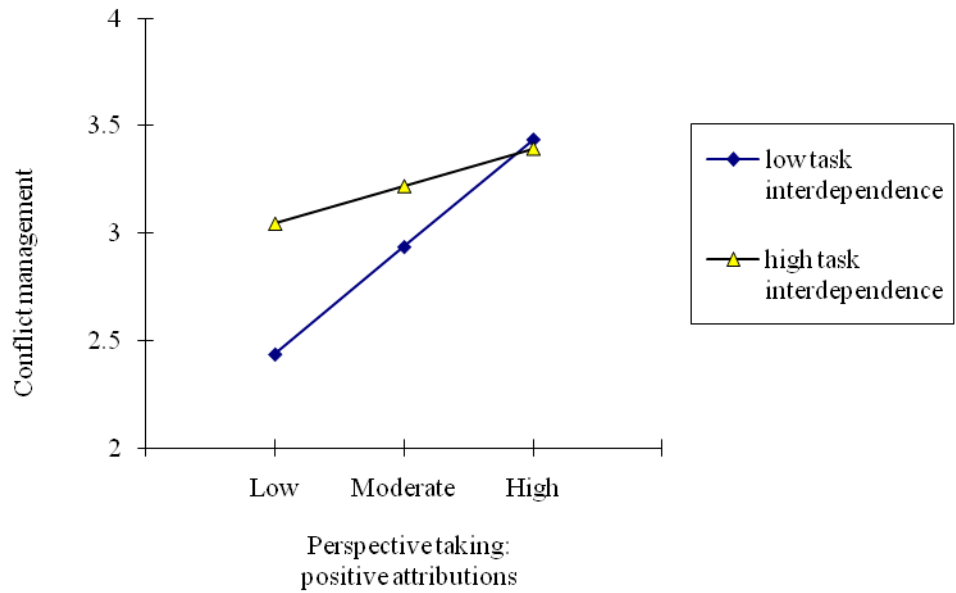

Figure A.14 Task Interdependence (T1), Team Member Perspective Taking Empathic Concern (T2) and Conflict Management (T3)
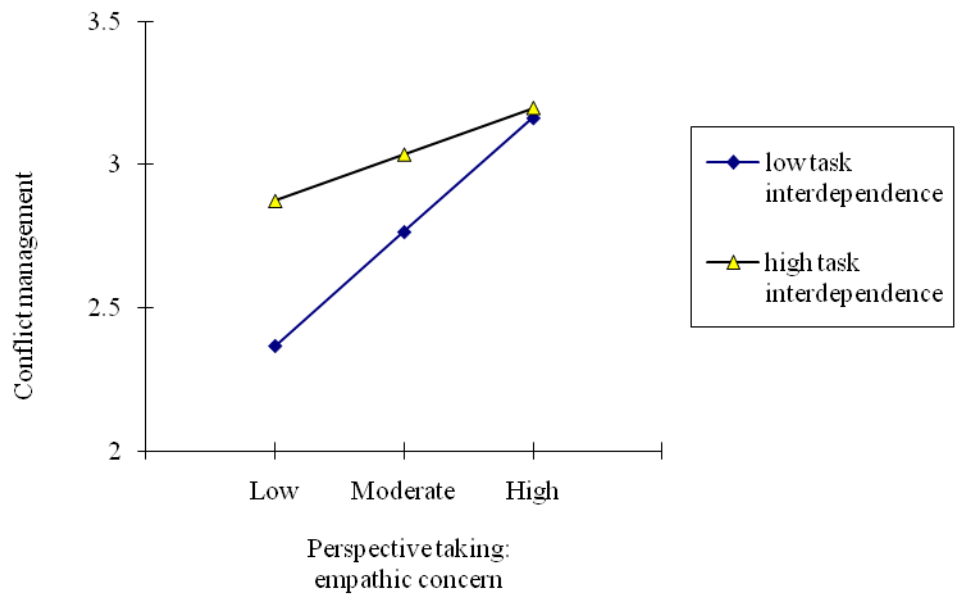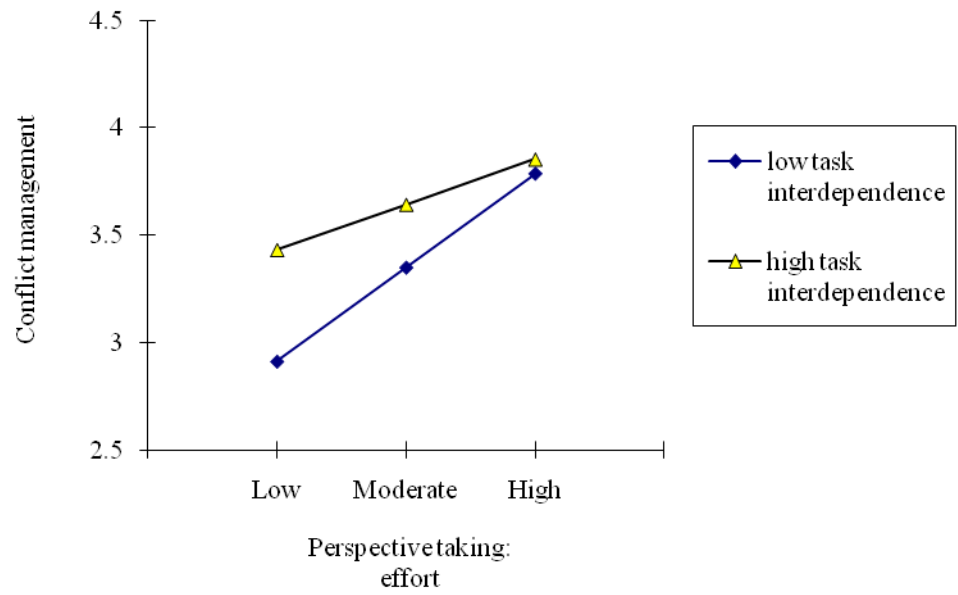
Figure A.15 Task Interdependence (T1), Team Member Perspective Taking Effort (T2) and Conflict Management (T3)

Study 3: Full Moderated Mediation Output
(Macro Taken From: http://www.comm.ohio-state.edu/ahayes/**)**

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Interaction Terms:
Inter1: PTINGPC  *        PTOUGPC
Inter2: ELABC    *        PTOUGPC


MEDIATOR VARIABLE MODEL
            Coeff       SE        t        P>|t|
Constant    .1948     .3174     .6139      .5402
PTINGP      .2490     .0943    2.6394      .0092
PTOUGP      .2357     .0995    2.3692      .0191
Inter1      .0378     .1165     .3249      .7457
DEPDUM1     .0311     .3231     .0962      .9235
DEPDUM2    -.0261     .3249    -.0805      .9360
DEPDUM3    -.1595     .3266    -.4884      .6260
DEPDUM4     .0527     .3766     .1398      .8890
DEPDUM5    -.2691     .3246    -.8289      .4084
DEPSTG1    -.0996     .0815   -1.2219      .2236
DEPSTG2    -.1305     .1049   -1.2444      .2153
teamsize   -.0074     .0134    -.5504      .5828


DEPENDENT VARIABLE MODEL
            Coeff       SE        t        P>|t|
Constant   4.2824     .2307   18.5643      .0000
PTINGP      .2485     .0697    3.5632      .0005
PTOUGP      .0255     .0733     .3473      .7288
Inter1      .0154     .0955     .1612      .8722
ELAB        .4244     .0594    7.1431      .0000
Inter2     -.0409     .1307    -.3128      .7548
DEPDUM1    -.7649     .2342   -3.2662      .0014
DEPDUM2    -.8388     .2357   -3.5594      .0005
DEPDUM3    -.5602     .2373   -2.3603      .0195
DEPDUM4    -.4279     .2729   -1.5683      .1189
DEPDUM5    -.7575     .2358   -3.2123      .0016
DEPSTG1     .0826     .0592    1.3941      .1653
DEPSTG2    -.0435     .0768    -.5667      .5717
teamsize    .0087     .0097     .9035      .3677


Conditional indirect effect at specific value(s) of the moderator(s)
  PTOUGP   Ind Eff     SE        Z      P>|Z|
  -.4403    .1128     .0495    2.0755    .0379
   .0011    .1157     .0430    2.4547    .0141
   .4424    .1180     .0515    2.0956    .0361

Moderator values listed are the sample mean and +/- 1 SD
```

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