

# On what bases? The role of trust cues in longitudinal trust development during newcomer socialisation

By

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## **DECLARATION**

I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of Doctor of Philosophy is entirely my own work, and that I have exercised reasonable care to ensure that the work is original, and does not to the best of my knowledge breach any law of copyright, and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the text of my work.

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## **Abstract**

Despite recent theoretical advances, the pattern of trust development between coworkers is a topic of dispute and many basic trust processes remain unclear. Increasingly, trust researchers are recognising that trust development is a context specific process that requires more nuanced empirical investigation of trust changes over time and in specific situations. Furthermore, theory suggests that employees attend to an array of independent trust cues but it fails to identify which cues are important when. Using a four wave longitudinal field study with 193 participants, this research demonstrates how new coworker intentions to engage in trust behaviours (reliance and disclosure) evolve during employee socialisation, and examine the trust cues that prime decisions to trust. Drawing on existing theory, it is hypothesised that early trust intentions will be related to individual trust propensity and that intention to engage in trust behaviour will increase over time. It is also hypothesised that early trust will be presumptive, based on information about coworker roles, the rules inherent in the organisation, and identification with the coworker group. In contrast, it is expected that as relationships develop, trust will be based on more personal cues (coworker trustworthiness). Latent growth modelling reveals that both reliance and disclosure intentions develop in a positive, non-linear pattern over time. Furthermore, the findings indicate that propensity to trust has a statistically significant effect on the initial status of intention to rely on and disclose information with coworkers but not on changes in trust behaviour over time. The multi-wave design permits comprehensive assessment of the change in the impact of different trust cues over time on intentions to engage in trust behaviour and finds that the importance of certain cues change as a relationship matures. Based on these findings implications for theory, practice and future research are discussed.

# **Chapter One**

## **Introduction and Overview**

## **Introduction and Overview**

### **1.1 Introduction**

Trust is vital for the effective functioning of working relationships. When trust is present, individuals and groups can cooperate freely without the need to monitor others or engage in self-protective behaviours (Mayer & Gavin, 2005). As such, trust has been widely accepted as an important predictor of employee attitudes and behaviours including job performance and extra-role behaviour (Colquitt, Scott, & LePine, 2007; Dirks & Ferrin, 2002) with outcomes at an individual, group and organisational level (Fulmer & Gelfand, 2012). Despite the importance of trust to individuals and organisations alike, the trust research has been described as “focusing more on charting the territory than on probing its depths” (Rousseau, Sitkin, Burt, & Camerer, 1998, p.394). While research interest in the trust area has increased in recent years, many basic trust processes remain unclear (Li, 2007). In particular our knowledge of how trust develops over time is largely theoretical.

Reviews of the trust development literature have outlined the differences across dynamic theories of trust including how trust is defined and measured, the level at which trust is thought to begin and the variables driving changes in trust levels over time (Lewicki, Tomlinson, & Gillespie, 2006). Empirical studies of trust that capture the very beginning of a relationship and continue to measure trust over time are required in order to address this theoretical uncertainty. However, empirical research directly investigating change in trust levels during the critical initial phase of a relationship is scarce, and theories proposing cues that underlie initial trust impressions (e.g. Kramer & Lewicki, 2010; McKnight, Chervany, & Cummings, 1998) have yet to be thoroughly tested. In addition, the relative lack of longitudinal

research in the trust arena and the over dependence on cross-sectional studies has resulted in many unanswered questions regarding trust development. This gap in the literature has made it difficult to develop a clear picture of the specificity of trust evolution and to identify what cues coworkers attend to and integrate when making the decision regarding trusting another. This research aims to resolve this theoretical fuzziness by establishing the levels of trust new employees have in coworkers in their first moments at work and tracing changes in these levels over a three month period.

In order to achieve this, trust development in this study is examined in the context of a socialisation period in a large consultancy practice. The socialisation period allows access to early trust relationships from their very beginning. From the moment that they join an organisation, new hires must interact and cooperate with other organisational members. Before these interactions can take place, it will be necessary for individuals to make a judgment regarding their willingness to be vulnerable to their colleagues. Li's (2012) outline of the contexts in which trust matters most, describes situations where uncertainty and vulnerability are high, where unmet expectations represent a significant risk and where a level of interdependence is expected. Socialisation represents a period of an employee's working life that is likely to incorporate all of these characteristics. Decisions to rely on colleagues or share information with them will be made continually throughout the life-span of working relationships, but the period of socialisation offers a unique context from which to gain a nuanced perspective on trust development. In considering trust during socialisation, this research aims to contribute to the understanding of how and why trust develops over time. This study will provide insight into the pattern of trust development in early workplace relationships and will examine the individual differences and perceptions driving this development.

This introductory chapter provides an overview of this dissertation. First, this chapter provides a short discussion of the definition of trust and the significance of research in the area of trust and trust development. This chapter will then consider the aims and objectives of the study and will demonstrate how fulfilment of these objectives contributes to the existing trust literature. The overarching research questions driving this study and the specific hypotheses developed and tested in the remainder of this thesis will be presented. This chapter will conclude with an overview of the structure of the thesis.

## **1.2 Significance of the Study**

The concept of trust has attracted research interest from a variety of academic disciplines and as a result, a myriad of trust definitions have been proposed. Reviews of the literature reveal more than 70 attempts to define trust (Seppanen, Blomqvist, & Sundqvist, 2007). The definition of trust accepted in this research was proposed by Rousseau et al. (1998) in an attempt to draw together themes from a variety of emerging perspectives on trust. The resulting definition consists of two key aspects, a willingness to be vulnerable and a positive expectation of another party (Rousseau et al., 1998). According to this definition, trust is seen as a psychological state belonging to the trustor that is anchored in the context of a particular relationship.

It is now widely accepted that trust is a key ingredient in social exchange relationships (Blau, 1964). Theorists argue that trust provides a lubricant for social interactions facilitating cooperation and minimising competitive behaviour (Gambetta, 1988; McAllister, 1995). As such, trust is vital to modern day workplaces where the majority of employees are required to cooperate with coworkers, supervisors, and often clients or customers to complete their work. Meta-analysis

confirms the importance of trust as a moderately strong predictor of risk-taking behaviour, task performance, organisational citizenship behaviour, and counterproductive work behaviour (Colquitt et al., 2007).

As trust plays such a central role in workplace relationships and desirable workplace behaviours, the understanding, prediction, and encouragement of trust in organisations is of great importance to academics and practitioners alike. However, trust does not exist as a stable, unchanging variable. Theorists argue that trust is a dynamic process that develops and is prone to change over time as a result of personal, social, and environmental cues (Kramer, 2006; Lewicki et al., 2006). Existing research on trust development is largely propositional and our understanding of this development has been hampered by the predominance of cross-sectional studies that capture trust as a snapshot at one point in time (Lewicki et al., 2006). This research offers a longitudinal picture of trust and, as such, aims to contribute to understanding of the development process providing a basis for future theory development.

### **1.3 Research Aims and Contributions**

Trust literature in general has been criticised for being “long on theory and short on empirical research” (Tomlinson, Dineen, & Lewicki, 2004, p.166). This is particularly true in the case of trust development. There are at least four critical gaps in our understanding of trust development processes: a dearth of longitudinal empirical research to illuminate trust changes over time, a lack of consensus on the operationalisation of trust and its separation from immediate antecedents and consequences, a lack of context specific insight into trust development in organisations, and a theoretical and empirical fuzziness surrounding the basis of trust

decisions. This section will discuss the aims of this research with regards to contributing to the trust literature in addressing these gaps.

### **1.3.1 Longitudinal Trust Development**

Although considerable theoretical work has been devoted to illustrating the process of trust development over time (e.g. Kramer & Lewicki, 2010; Lewicki et al., 2006; Lewicki & Bunker, 1996), the body of empirical work demonstrating this longitudinal process remains small. The term development suggests a dynamic process; indeed the majority of trust development theories explicitly include a role for time or a history of interactions in their model. However, there is a significant lack of longitudinal research investigating the process of trust development. In order to examine change in a variable, methodological theorists stress the importance of repeated measurement of that concept over an appropriate period of time (e.g. Ployhart & Vandenberg, 2010). Indeed researchers are increasingly recognising that cross-sectional research can be misleading in identifying predictors of a variable of interest, explaining that variables which appear important at a single point of time are often less relevant if studied longitudinally (Maxwell & Cole, 2007; Ployhart & Vandenberg, 2010; Ployhart & Ward, 2011).

The lack of truly longitudinal trust research has made it impossible to fully test existing theoretical models and to develop a more nuanced understanding of changes in trust over time. In order to fully understand the complexities of longitudinal trust development, it is important to capture the process from inception and to follow relationships as they develop towards maturity. This research employs a longitudinal design and aims to investigate the trajectory of trust development and to test the propositions of models which have proposed a change in the basis or form of trust as a

relationship matures. In doing so, this research aims to provide evidence based insight for furthering trust theory development as well as prescriptive advice for practitioners working in the context under examination.

### **1.3.2 Measurement of Trust**

Research efforts in the trust literature have been undermined and fragmented by a lack of consensus in defining trust and how it should be measured (McEvily & Tortoriello, 2011). The Rousseau et al. (1998) definition of trust, employed in this study, has gained considerable support in the literature by combining two central aspects of the concept: a willingness to be vulnerable and an expectation about the other party. McEvily, Perrone and Zaheer (2003) maintain that the trust process occurs over three stages where perceptions of the trustee drive a decision to accept vulnerability leading to risk-taking behaviour. This separation of trust related variables is mirrored in the influential model of Mayer, Davis and Schoorman (1995) which clearly delineates trustworthiness, trust and risk-taking behaviour in relationships. Unfortunately, many trust researchers have collapsed these stages and have used perceptions of the trustee as a proxy for trust itself (Bijlsma-Frankema & Rousseau, 2012). This is particularly misleading given that meta-analysis demonstrates that trust mediates the majority of the impact of trustworthiness perceptions on employee behaviour (Colquitt et al., 2007). Furthermore, by definition, trustworthiness equates only to one aspect of Rousseau et al.'s (1998) conceptualisation and does not contain any element of vulnerability or suggestion of interaction (Gillespie, 2012). In the experimental literature, researchers have tended to lean in the opposite direction and use risk-taking behaviour such as cooperation as a proxy for trust development (e.g. Lount, Zhong, Sivanathan, & Murnighan, 2008;



Malhotra, 2004). Altogether, this variety of operationalisations has contributed to a lack of maturity and convergence in the trust literature (Bijlsma-Frankema & Rousseau, 2012).

Dietz and Den Hartog (2006) stress the importance of choosing a measure of trust which reflects the conceptualisation of the construct accepted in the research. Accordingly, in this study trust is operationalised as reliance and disclosure trust intentions (Gillespie, 2003). In choosing this measurement of trust, this research aims to focus on the trustor's decision to make themselves vulnerable to another party and to separate this decision from perceptions of the trustee or other available trust evidence. Therefore, this study incorporates both aspects of Rousseau et al.'s (1998) definition of trusting measuring intentions to be vulnerable as well as the positive expectations of others on which these intentions are built.

### **1.3.3 Bases of Trust Decisions**

The third aim of this research relates to the lack of specificity in our understanding of which bases of trust decisions are important in particular situations. The bases of trust decisions have been the focus of much attention in the literature. A broad array of antecedents to trust have been proposed and tested including trustee attributes (e.g. trustworthiness; Mayer et al., 1995), trustee behaviours such as fairness (Frazier, Johnson, Gavin, Gooty, & Snow, 2010) and leadership styles (Jung & Avolio, 2000), trustor perceptions of organisational policies or procedures (McKnight et al., 1998) and social characteristics such as group membership (Williams, 2001).

However, recent discussion amongst scholars in the area has highlighted the impracticality of trustees weighing all information equally for every trust decision

(Bijlsma-Frankema & Koopman, 2003; Dietz & Den Hartog, 2006), and the importance of improving our knowledge of which information shapes individual decisions to engage in trusting behaviour, and when (Dietz, 2011). As Dietz (2011, p. 215) notes, the question regarding the basis of trust decisions is “enduring yet curiously neglected”. In an effort to provide some insight into the topic, this research examines the relationships between six commonly cited trust cues and trust intentions over time. By studying the influence of trust cues over a three month period of socialisation, this study aims to ascertain if the cues related to trust intentions at the start of a working relationship are different from those used as the relationship matures. Beyond theory, understanding the importance of different trust cues in early trust relationships has important practical implications for presentation management tactics in a range of organisational activities including recruitment and selection, employee orientation and new joiner mentoring.

#### **1.3.4 Context Specific Trust Development**

The fourth contribution of this research lies in the context in which trust development is studied. Firstly, research attention has been focused primarily on vertical trust relationships such as trust in the organisation or supervisor, leading researchers to call for more empirical work focused on horizontal trust dynamics amongst coworkers (Yakovleva, Reilly, & Werko, 2010). Coworker trust is critical to the everyday functioning of an organisation as it allows employees to act under the assumptions that their peers will support them and that they can have confidence in the words and actions of their colleagues (Ferres, Connell, & Travaglione, 2004).

Secondly, we are aware from existing trust theory that trust development is likely to be situation and context specific. The study of trust across different work

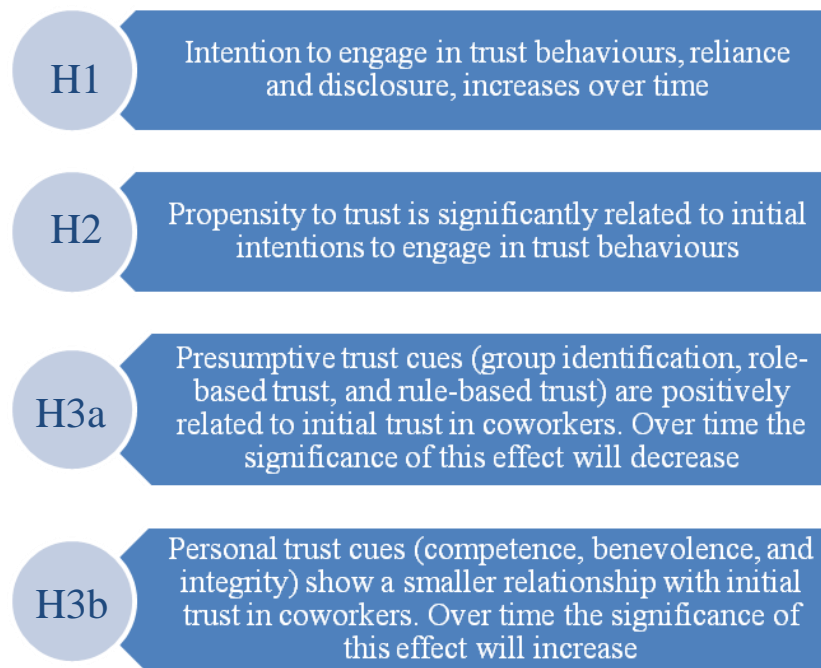
contexts provides support for the proposition that the antecedents of trust may differ across contexts (Colquitt, LePine, Zapata, & Wild, 2011). For trust models to be of practical use in organisations it appears that a more fine-grained understanding of trust over time and across contexts is required. Accordingly, the importance of studying trust development in the context of key organisational events or transitions is central to advancing our understanding of this dynamic process. This research examines trust development during organisational socialisation, a period of time in an individual's working life that is uniquely suited to the study of trust development as it is possible to track trust levels from relationship initiation to a stage of relative relationship maturity. Understanding trust development patterns in early trust relationships has potential applications across a range of other contexts, including building trust with new customers, clients or collaborators. Furthermore, participants in this research are knowledge workers, a sector of the workforce that is both growing (Chen & Klimoski, 2003) and central to the economy (Kessels, 2004). This study offers insight into understanding how to build effective relationships between knowledge workers.

#### **1.4 Research Questions and Hypotheses**

Overall the objective of this study is to provide a more nuanced understanding of the process of trust development by tracing the growth patterns of trust from relationship initiation through the period of new joiner socialisation. Guided by this purpose, the study seeks to empirically address three questions which are central to clarifying and advancing understanding of the process of trust development. First, what levels of trust are traversed as a working relationship matures? Second, how do individual differences in trust propensity impact the development of trust? Finally, do

different trust cues influence trusting decisions at different points in a maturing relationship? Drawing on literature from the trust and socialisation fields, this research proposes three specific research hypotheses presented in Figure 1.1 below.

**Figure 1.1. Research Hypotheses**



## **1.5 Thesis Structure and Outline**

This thesis is organised into seven chapters. This introduction chapter has provided an overview of the arguments and contributions of the research with a focus on the significance of this research in theoretical and methodological terms. Chapter 2 will describe the context in which the research was conducted in more detail. In particular, Chapter 2 will examine the context of socialising new employees into an organisation and well as the organisational setting of this study in a professional service firm. Academic literature describing these contexts will be reviewed and applied to provide an analysis of the current research context.

Chapter 3 begins the literature review section of the thesis. In this section, the broad issue of trust will be examined with a focus on how trust as a variable can be defined and the levels at which trust is typically studied. Chapter 3 will then focus specifically on literature describing the study of interpersonal trust. The trust variable will be discussed in terms of its relationship with other key concepts in organisational psychology by examining the consequences of trust and the variables that have been used to predict it. Finally, Chapter 3 will examine issues concerning trust levels, optimal levels of trust in a relationship and the potential hazards of misplaced trust. Overall, this chapter aims to position this study within the wider trust and organisational psychology literature by providing a broad overview of the concept and discussing the nomological network in which it is studied.

Chapter 4 builds on the definitional work of Chapter 3 and focuses the literature review on the more specific area of trust development theory. Psychological approaches to trust development will be presented followed by a discussion of trust development within the socialisation context. The expected shape of trust development in this research will be explored and a hypothesis will be presented regarding the trajectory of changes in trust levels over time. Next, Chapter 4 will examine the forces driving changes in trust levels focusing on individual differences in propensity to trust and the use of contextual and personal trust cues at different stages in a new workplace relationship. Again, hypotheses will be developed and presented to predict how these factors will influence trust development in this research context.

Chapter 5 presents the methodology employed in this research project. The chapter describes the philosophical approach underpinning the study and the steps

taken in preparing and implementing the research procedure. Information will also be presented on the characteristics of the sample and data set and the preparation of the data set for analysis. Chapter 6 then reports the analysis of the data including the testing of the factor structure of the measurement model and the measurement invariance properties of the dependent variables. The hypotheses developed in Chapter 4 are then tested using a latent growth modelling approach. This thesis will conclude with a final chapter discussing the research contributions and findings, and situating them in the context of existing literature. Chapter 7 also explores the practical implications of the research, discusses the limitations of the study and proposes potential avenues for future research.

## **1.6 Chapter Summary**

This chapter provided an overview of the study and the area of trust research. The chapter commenced with a brief discussion of the significance of understanding trust and trust development processes. The aims of this research and its importance in terms of contributions to the literature were discussed. This was followed by a summary of the research questions and the hypotheses proposed in the study. Finally, the chapter provided an overview of the remainder of this dissertation.

This study significantly advances the trust literature by examining in detail for the first time, how trust in coworkers develops over time from relationship initiation to a more mature stage. The design of this study provides an opportunity to investigate the growth patterns of new joiner intentions to engage in trust behaviours with their colleagues. Drawing on Rousseau et al. (1998) and Gillespie's (2003) models of trust, the study clearly distinguishes intentions to engage in trust behaviour from its antecedents. The study examines the longitudinal impact of propensity to

trust on reliance and disclosure behaviours from the initiation of a coworker relationship. Additionally, by clarifying the relationship between behavioural trust intentions and trust cues, this research aims to provide a more fine-grained understanding of the impact of an array of common trust cues over time. The main objective of this research is to address some of the limitations in our current knowledge of trust development and to contribute a clear model of development patterns in new workplace relationships to guide future theoretical developments and empirical research. The in-depth examination of trust development also provides a practical contribution to organisations which aim to develop effective working relationships amongst new joiners during the socialisation period. For example, by understanding the pattern of trust development during socialisation, organisations can focus their efforts on encouraging peer trust relations during periods where change is most likely to occur.

## **Chapter Two**

### **Organisational Socialisation - The Research Context**



## **Organisational Socialisation - The Research Context**

### **2.1 Introduction**

This chapter aims to provide an overview of organisational socialisation as the research context of this study. This research is designed to explore trust development between coworkers in the context of a period of organisational socialisation within a Big 4 professional services firm. Although the theoretical contributions of the research are focused within the trust literature, this chapter aims to contextualise trust development and provide a backdrop for the focus of the study. Understanding context allows empirical research to meaningfully contribute to the wider body of literature in building a picture that can be more accurately understood and interpreted across cultures and organisational settings (Rousseau & Fried, 2001). Sensitivity to context allows researchers to appreciate the boundaries of participant experiences and the potential generalisability of research observations (Whetten, 1989). Within the trust literature itself, researchers are increasingly aware that trust may be understood or function differently across contexts or cultures (Lewicki & Brinsfield, 2012; Dietz, Gillespie, & Chao, 2010). The chapter begins by defining the concept of organisational socialisation and highlighting its importance as a research context. Three approaches used to study organisational socialisation will be described and applied to provide a detailed picture of the current context. The chapter will also discuss the role of the coworker during socialisation and will examine the characteristics of professional services firms relevant to newcomer experiences at work.

## **2.2 Organisational Socialisation**

With employee mobility levels increasing, insight into the processes of organisational socialisation has become more important to researchers and practitioners alike. Previous literature has estimated that approximately 25% of the workforce is being socialised into a new organisation or work group at any one time (Bauer, Bodner, Erdogan, Truxillo, & Tucker, 2007). Van Maanen and Schein (1979, p.211) define organisational socialisation as “the process by which an individual acquires the social knowledge and skills necessary to assume an organizational role”. Taormina (1997, p.29) develops the concept further stating that “organizational socialization is the process by which a person secures relevant job skills, acquires a functional level of organizational understanding, attains supportive social interactions with coworkers, and generally accepts the established ways of a particular organization”. Organisations tend to invest a great deal of money and resources into attracting and selecting new employees to join their company. Socialisation is an opportunity for organisations to capitalise on this investment and enable newcomers to function effectively in their new environment as quickly as possible (Cooper-Thomas & Anderson, 2006). Meta-analysis demonstrates that successfully socialising newcomers into the organisation is associated with a range of benefits including performance, positive work attitudes, and lower levels of turnover (Bauer et al., 2007). Moreover, newcomer attitudes and experiences during socialisation appear to have long lasting effects. Workplace attitudes formed in the early stages of socialisation often have strong relationships with the same attitudes assessed at a later stage in an employee’s career (Kammeyer-Mueller & Wanberg, 2003). Thus, research examining social and organisational processes during this period has both practical and theoretical implications.

## **2.3 Theories of Organisational Socialisation**

Research into the context of organisational socialisation can be categorised into three separate streams with a focus on process, organisational tactics, or content. Accordingly, three main theories of socialisation as a human resource tool have been developed: theories that focus on the stages of socialisation; theories that emphasise the content of learning during socialisation; and theories that focus on the tactics employed by organisations in socialising their new employees. Each of these perspectives will be described below and discussed in application to the context of the current research.

### **2.3.1 Stage Models of Socialisation**

Kramer and Miller (1999) summarise the traditional stage models of socialisation where newcomers move through four sequential stages: i) vocational and anticipatory socialisation; ii) encounter socialisation; iii) metamorphosis socialisation; and finally, iv) exit. According to stage models (e.g. Feldman, 1981; Jablin, 1987; Fisher, 1986), the first stage of socialisation takes place before an individual joins an organisation. This process begins when an individual is exposed to the values and attitudes of their family, peers, wider society and the media which shape their perception and expectations of certain organisations or occupations. In addition, individuals typically have some level of interaction with their new organisation before joining through recruitment and selection processes or external interaction with organisational insiders. The second stage, encounter socialisation, covers the period when the newcomer physically joins the organisation or work group and begins to be familiarised with their role (Kramer & Miller, 1999). Through the stage of metamorphosis or accommodation, employees begin to adapt to their role, identify

organisational values and build relationships with colleagues (Fisher, 1986; Jablin, 1987). Finally, employees move on to a new role or work group or exit the organisation entirely.

Within the framework of the traditional stage model of socialisation, this research is focused in the context of stages two and three, encounter and accommodation. Although the pre-entry stage of socialisation and employee turnover offer interesting avenues for research into trust, especially at an organisational level, it was decided that stages two and three offer the most suitable research context for the study of trust development amongst coworkers. Trust is recognised as an important ingredient in socialisation progress at the encounter stage as a prerequisite for social support and knowledge sharing (Feldman, 1981). Additionally, recent models of socialisation have identified these stages as the time at which socialisation failure may engender the most extreme reaction from newcomers (Allen, 2006), and the most important period for studying newcomer expectations and behaviour (Chen & Klimoski, 2003). In their three stage model of this period, Chen and Klimoski (2003) further delineate a phase of anticipation where initial expectations are formed and influenced by individual difference characteristics. Next, in the encounter phase, social exchange becomes more central as newcomer expectations for their new role impact interactions with others. Finally, in the adjustment phase, high quality social exchanges impact performance by increasing newcomer empowerment and access to social support (Chen & Klimoski, 2003). This research aims to provide a picture of trust development across the phases described by Chen & Klimoski (2003) by capturing initial trust expectations, and influence of individual differences, and examining how trust intentions change as newcomers adjust to their new social environment.

### **2.3.2 Content Models of Socialisation**

One stream of literature in the socialisation field has focused on the content of socialisation as a multidimensional concept. Several researchers have attempted to categorise the knowledge or skills newcomers accumulate during socialisation in order to build a model of how learning during socialisation relates to socialisation outcomes. Drawing on the discussions of socialisation stage theorists, Chao and colleagues (Chao, O'Leary-Kelly, Wolf, Klein, & Gardner, 1994) propose a six factor model of socialisation content and suggest that newcomers can develop differing levels of proficiency across each dimension. First, performance proficiency represents the main task or job related dimension and focuses on the acquisition of knowledge and skills to achieve an appropriate level of in-role performance. The second dimension, people, highlights the key role of building effective work relationships in the new organisation. Third, effective socialisation requires newcomers to achieve insight into the political structures that determine power distribution and social network structure within their team and the wider organisation. The fourth dimension in Chao et al.'s (1994) model focuses on newcomer acquisition of the technical language and jargon associated with their new role and the organisational environment in which they are working. Fifth, newcomers are expected to develop an understanding of their new organisation's values and goals, both formal and informal, and the norms which guide behaviour in the workplace. The final factor addresses the need to learn about the organisation's history and in particular, the traditions and stories that portray elements of organisational culture.

Although each of these dimensions can be expected to be represented in the socialisation context of this study, the focus for the purpose of this research is on the

theme of people. The domain of people related learning is a central theme across a variety of socialisation models. Feldman (1981) posits that people related learning occurs in both the encounter and accommodation or change stages of socialisation. Specifically, during the encounter phase newcomers are initiated into their new work group where they begin to build relationships and understand behavioural norms. At the accommodation stage, newcomers are expected to have established trusting relationships with their coworkers and to have gained an understanding of and adapted to the norms and values that govern behaviour in their workplace (Feldman, 1981). This process of social initiation has significant consequences for a newcomer's ability to learn about their role and become a competent member of the organisation (Feldman, 1976). Taormina (1997) positions coworker support as one of four pillars of successful socialisation. According to his model, coworker support refers to the socialisation activities which provide a newcomer with emotional and practical (resource related) support and a buffer against experiences of negative affect in the work environment (Taormina, 1997). The importance of coworker support to the socialisation process is proposed to stem from an underlying need for affiliation which motivates newcomers to seek out and build relationships in the workplace (Taormina, 2009).

In critique of content models of socialisation, prominent scholars have argued that the content of learning during socialisation is a function of the way in which the new knowledge is presented (Van Maanen & Schein, 1979). The study of *how* information is presented to newcomers, depicted in tactic models of socialisation, is arguably the most popular of the traditional approaches to empirical research in the field.

### **2.3.3 Tactics Models of Socialisation**

The third class of socialisation theories emphasize organisational tactics. Socialisation tactics are the practices organisations use to socialise newcomers into their new environment that act as an important signal to newcomers regarding the human resources culture in the organisation (Cable & Parsons, 2001). Van Maanen and Schein (1979) suggest that the wide variety of potential socialisation methods can be categorised according to six bipolar dimensions: collective-individual, formal-informal, sequential-random, fixed-variable, serial-disjunctive, and investiture-divestiture. The collective-individual continuum describes the extent to which newcomers are socialised as part of a group or engage in learning activities individually. The second continuum represents a distinction between the socialisation of newcomers using clearly defined activities designed specifically for newcomers and the less formal tactic of allowing newcomers to learn on the job. The sequential-random continuum refers to whether or not the planned order of socialisation activities is shared with newcomers, while the fixed-variable continuum describes whether newcomers are aware of how these activities are scheduled, reducing uncertainty about the timing and progression of their socialisation experience. Serial tactics involve newcomers interacting with existing organisational members as role models or mentors during their socialisation. Conversely, in disjunctive socialisation newcomers are not provided with an opportunity to interact with experienced organisational members. Finally, the investiture-divestiture continuum refers to the positive (investiture) or negative (divestiture) feedback newcomers are provided with to help them adapt to their new role and adjust to organisational values and norms.

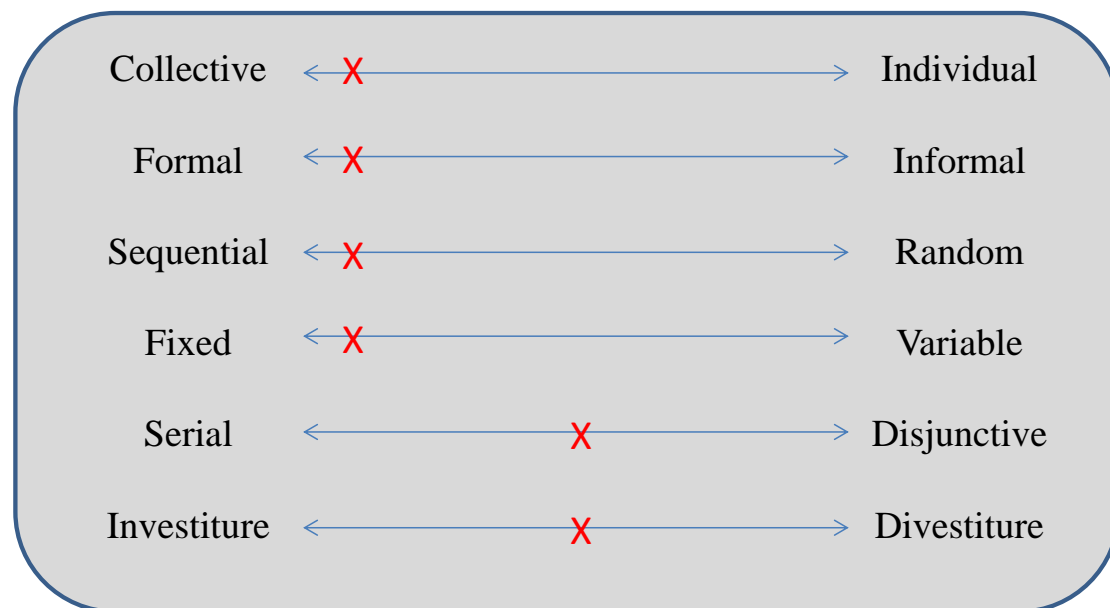
With respect to Van Maanen and Schein's (1979) tactics model, the socialisation context of the current research is summarised in Figure 2.1. This context is characterised by a highly collective, formal learning environment where newcomers attend socialisation activities with a group of approximately 30 fellow newcomers. The research sample of newcomers is clearly distinguished from existing members and clearly identifiable as a new recruit to the organisation. This design is likely to create an environment where newcomers receive a common message from the organisation and form a social community with each other (Cable & Parsons, 2001). Within the first week of joining the organisation, newcomers in this sample were provided with a detailed timetable of their planned socialisation activities providing a fixed, sequential environment where they had a clear picture of their expected progress through socialisation. This collective, sequential, fixed environment is consistent with previous studies of socialisation in a professional firm context (e.g. Morrison, 1993a).

With regards to the serial-disjunctive continuum, the distinction in this context is slightly less straightforward. Newcomers in this research attended the majority of their socialisation activities off-site in a location separate to existing organisational members. In addition, no formal mentoring programme was set up for newcomers and many new recruits had only minimal interaction with their assigned supervisors during their first three months in the organisation. However, the majority of classroom training delivered to newcomers was presented by existing organisational members who acted as role models for new recruits. Newcomers also had daily interaction with members of the human resources department and, during the twelve week period, participated in two work experience assignments where they had the opportunity to interact with a variety of other professional employees within the



organisation. Similarly, the current context was not distinctly investiture or divestiture. Feedback was primarily provided to newcomers in the form of socially neutral results from progress tests throughout socialisation designed to assess newcomers' understanding of job related knowledge and processes.

**Figure 2.1. Socialisation Tactic Continua and the Current Research Context**



Jones (1986) subsequently restructured the tactics model of socialisation into three broader dimensions: context tactics (incorporating the collective-individual and formal-informal continua), content (incorporating the sequential-random and fixed-variable continua) and social aspects (incorporating the serial-disjunctive and investiture-divestiture continua). However, despite the parsimony of the three factor model, some researchers have critiqued Jones' (1986) conceptualisation as the six factor model often displays better factor structure and predictive abilities (Ashforth, Saks, & Lee, 1997). In general, empirical research has indicated that socialisation is associated with more positive outcomes when collective, formal, sequential, fixed, serial and investiture tactics are employed (Allen, 2006). This combination of tactics can be collectively referred to as institutionalised socialisation, while individualised

socialisation involves the use of individual, informal, random, variable, disjunctive and divesture (Jones, 1986; Bauer, Morrison, & Callister, 1998). Outcomes linked to institutionalised tactics include an increased willingness to accept organisational norms (Cable & Parsons, 2001), employee turnover (Ashforth & Saks, 1996), feedback from coworkers and supervisors (Saks & Ashforth, 1997a), job satisfaction and organisational commitment (Mignerey, Rubin, & Gorden, 1995). Tactics models of socialisation provide a useful means of describing the context in which trust development will be examined in this research. Improved understanding of context in empirical work provides vital insight into how research findings can be understood within the broader field of literature (Rousseau & Fried, 2001).

#### **2.3.4 Socialisation Theory Summary**

This section has presented three traditional perspectives on organisational socialisation. These theories represent the foundation of the current socialisation literature and highlight areas of potential research interest by describing the interactions with the organisation or coworkers that influence socialisation experiences. Each perspective offers insight and improved understanding of the time scale and design of the socialisation process implemented in the context of this research. However, all three perspectives represent a traditional approach to the study of socialisation and tend to depict the newcomer as a passive subject failing to provide an explicit role for proactive behaviour. While the existence of individual differences is not entirely ignored (e.g. Jones, 1986), the focus of traditional socialisation theory has been on the structural and process related elements of socialisation (Tuttle, 2002). In contrast, an interactionist perspective on socialisation incorporates the role of individual differences as a central theme (Taormina, 2009) and portrays the newcomer

as a proactive participant in their own socialisation (Morrison, 1993b). Individual differences in activities such as information seeking and relationship building may act as mechanisms through which socialisation tactics and content influence newcomer socialisation success (Cooper-Thomas & Anderson, 2002; Korte, 2009). This study employs an interactionist perspective on newcomers and aims to explain how trust is developed between coworkers throughout socialisation on the basis of information collected from the organisational environment and individual differences across employees. The interactionist approach to explaining relationship building during socialisation will be explored in detail in Chapter 4.

## **2.4 Employee Socialisation and Coworker Relationships**

Chiaburu and Harrison (2008) define coworkers as workplace peers involved in daily interactions with the opportunity to provide support or provocation to each other. Research from the European Foundation for Improvement of Living and Working Conditions (2007) reports that 55% of employees work in teams and indicates that this figure is increasing over time. This trend encourages researchers to look beyond the organisation and newcomer supervisors when studying the socialisation context (Korte, 2009). Coworker relationships differ significantly from more vertical work relationships in that they are likely to be more frequent and discretionary for employees (Chiaburu & Harrison, 2008), and the social support they provide is thought to be more influential as the lack of power differential is conducive to positive social exchange (Sherony & Green, 2002). Coworker relationships are an interesting context for the study of trust development as they are uncomplicated by differences in authority, power and autonomy. In the case of newcomers who start on

the same day, the context is simplified again by removing the potential influence of differences in tenure and previous experiences in the organisation.

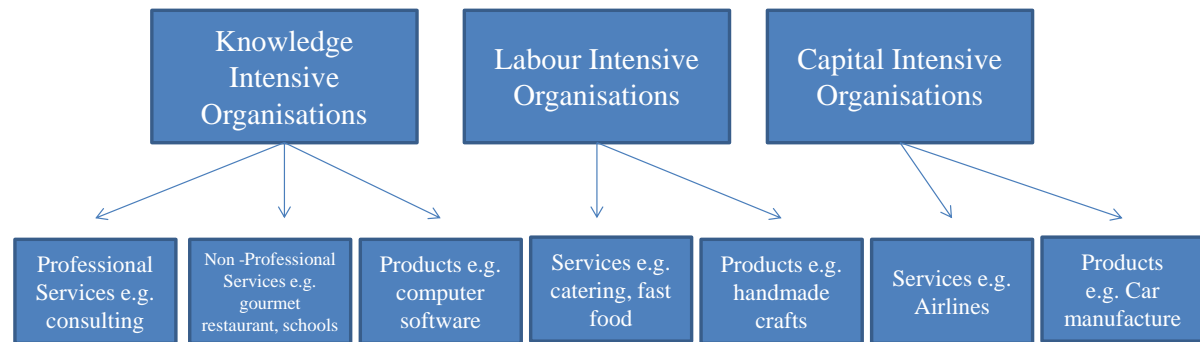
Empirical evidence demonstrates that daily interactions with peers and other new employees provide important socialisation aids for newcomers and have implications for a number of work outcomes including job satisfaction (Louis, Posner, & Powell, 1983). In particular, newcomers who have not been assigned mentors rely primarily on coworkers as their source of information during socialisation (Ostroff & Kozlowski, 1993). Indeed, qualitative research suggests that socialisation of newcomers occurs primarily through relationship building within immediate workgroup contexts (Korte, 2009). During the socialisation process, the influence of coworkers has been found to be strongly associated with group integration and the extent of inclusion and social support received from colleagues (Kammeyer-Mueller & Wanberg, 2003). In general, more attention has been given to the relationship processes between newcomers and existing organisational members during socialisation, especially supervisors, than to relationships between newcomers themselves (Moreland & Levine, 2002). However, newcomer cohorts provide an important socialisation tool, particularly in professional organisations where large groups of newcomers tend to be socialised together. The organisational context also plays a role in the importance of coworkers at work, in organisations where employees are engaged in complex team tasks, the influence of coworkers on an individual's work experience is enhanced (Chiaburu & Harrison, 2008). This research takes place in the professional services industry, the characteristics of professional service firms and their socialisation processes will now be explored.

## **2.5 Employee Socialisation in Professional Service Firms**

Much of the research conducted in professional services firms fails to provide a definition of the term, instead providing a list of example organisations e.g. law firms, accountancy practices (von Nordenflycht, 2010). Greenwood, Li, Prakash and Deephouse (2005, p.661) define professional service firms as organisations “whose primary assets are a highly educated (professional) workforce and whose outputs are intangible services encoded with complex knowledge”. Løwendahl (2005) provides a more detailed description of professional service firms as a subset of knowledge intensive firms where the majority of employees are professional, professional goals and idiosyncratic client services are afforded high priority, professional norms govern behaviour, technical professional knowledge is applied and created, and decision making is controlled by members of a profession (Løwendahl, 2005). Figure 2.2 displays Løwendahl’s (2005) typology of organisations and positions professional service firms within that framework. Von Nordenflycht (2010) agrees that typical professional service firms are characterised by high knowledge intensity and professional workers as well as a low capital intensity displayed by their relative lack of non-human resources such as equipment or stock. Von Nordenflycht (2010) explains that this combination of characteristics provides firms with a number of challenges including the difficulties of relying on, managing and retaining a workforce with a number of alternative employment options and a high need for autonomy, and the importance of professional reputation as a means for measuring work performance or quality. These characteristics make the professional services environment an important context for understanding relationship and trust development amongst colleagues. The landscape of the professional services industry is dominated internationally by the Big 4 firms which offer clients services including

auditing, tax consulting and a variety of general business consultancy services. The present study takes place within this Big 4 environment.

**Figure 2.2. Types of Organisations (adapted from Løwendahl, 2005)**



The typical employee in a professional service organisation is known as a knowledge worker, “employees who apply theoretical and analytical knowledge, acquired through formal education, to developing new products or services” (Janz, Colquitt, & Noe, 1997, p.878). Research into the behaviour and attitudes of knowledge workers has become increasingly important as in many countries they are one of the fastest growing sectors of the working population (Janz et al., 1997; Chen & Klimoski, 2003). Theory also suggests that professional workers hold a position of power in our society due to their specialised technical knowledge and their ability to collectively define the content of that body of knowledge (Grey, 1998).

New employees joining a professional services firm face a high barrier to entry in terms of education and prior qualification requirements. In addition, during their career these employees are often expected to attain further accreditation through relevant professional bodies. For instance, within the Irish accounting industry trainee accountants are expected to attain accreditation with one or more of a variety of professional accreditation bodies including Association of Chartered Certified Accountants ([www.acca.ie](http://www.acca.ie)), Chartered Accountants Ireland

([www.charteredaccountants.ie](http://www.charteredaccountants.ie)) and the Irish Tax Institute ([www.taxinstitute.ie](http://www.taxinstitute.ie)). The socialisation of new workers into their profession has received considerable research attention (Lui, Ngo, & Tsang, 2003). Learning the behavioural norms of their new occupation is considered a vital part of becoming a professional knowledge worker. Within the larger professional service firms, this process is considered synonymous with integration into the firm and theorists suggest that within these organisations being a professional *means* being a typical Big Four employee (Grey, 1998).

Within the socialisation literature a small body of studies have drawn newcomer samples from large professional service firms (Chatman, 1991; Saks, 1994; Morrison 1993a, Morrison 1993b). This body of literature suggests that newcomers who are achievement oriented and confident, with high endurance levels and analytical skills tend to report higher perceptions of person-environment fit (Chatman, 1991). Furthermore, entry-level accountants experience lower levels of anxiety as a result of formal socialisation training, particularly if they have low levels of self-efficacy (Saks, 1994). In general, the socialisation research suggests that newcomers seek a variety of information from their colleagues during the socialisation period. Research from within the accounting industry reports that peer relationships are a more important source for information related to social behaviour and norms than relationships with the supervisor (Morrison, 1993a). As a result, understanding how trust is built in new peer relationships is likely to be valuable to professional service firms who would like to encourage coworker trust development as a means of facilitating cooperative behaviour, support and information exchange amongst peers.

## **2.6 Chapter Summary**

This chapter has provided a discussion of organisational socialisation as the context of this research. Trust development in this study is embedded in a key period in an employee's career, organisational socialisation. Although this term is typically used to describe employees joining a new organisation, it can also apply to within organisation transitions such as joining a new team. This chapter presented three theories of socialisation which aim to describe the stages, content and organisational tactics employed during this period. Each perspective was used to situate the current research and to provide information about the population of interest. The research context can be described as focusing on people related learning during the encounter and accommodation phases of socialisation. It was identified that this sample of newcomers experienced a socialisation process characterised by collective, formal, sequential and fixed organisational tactics. The chapter also explained the key role played by coworkers during this period and examined the features of professional service firms which are likely to influence new employee experiences. Finally, empirical evidence from existing socialisation research in the professional service industry was explored. This chapter provides insight into the setting of the current research and the boundaries of research participant experiences, with the aim of contextualising the theoretical contributions to the trust literature.



## **Chapter Three**

### **Organisational Trust**

## **Organisational Trust**

### **3.1 Introduction**

This chapter begins the literature review section of the thesis by examining the broad issue of trust including definitional issues, levels of analysis and the nomological network of trust. The concept of trust as a subject of philosophical and political debate dates back to the classical period. However, it was not until the 1960s that the social scientific field began to truly interrogate the construct of trust and its implications (Möllering, Bachmann, & Lee, 2004). Over the past 50 years researchers publishing trust literature, across a variety of academic disciplines, have established its important role in building and maintaining close, productive relationships (Tomlinson & Mayer, 2009). Modern trust research gained momentum, popularity and focus in the mid 1990s due to the evolving nature of organisational structure (i.e. the emergence of flatter hierarchies, networked and virtual organisations, strategic business alliances and networks), and the need for employees to work in and adapt to increasingly dynamic and diverse environments. At the centre of these modern organisations is a high degree of relational and contextual uncertainty, and increasing levels of interdependence and risk that have made trust more salient and meaningful. The subjective risk and vulnerability involved in interacting with others at work is often considered an important prerequisite to trust (Li, 2007). Research interest has also been stimulated by the perceived crisis of trust in today's organisations and society, a realisation that trust is associated with numerous benefits and that it is often elusive (Kramer, 2006).

Reviews of the literature show that the concept of trust is included as a critical dimension of any theory of dyadic work relationships (Ferris, Liden, Munyon,

Summers, Basik, & Buckley, 2009). Many researchers have endeavoured to clarify the trust construct and the trust literature tended to be heavily conceptual until the late 1990s (Möllering et al., 2004). More recently, an emphasis on quantitative studies has emerged, however ambiguity surrounding a precise definition of trust remains. This array of conceptualisations has lead to “a confusing potpourri of definitions” Shapiro (1987, p. 642) which has hampered the progress of trust research and made generalisations and comparisons across disciplines and studies problematic.

Trust as a construct consists of two independent aspects, the definition of trust and the referent of trust (Clark & Payne, 1997; Dirks & Ferrin, 2002). The first part of this chapter will discuss trust as defined from a variety of perspectives including attempts to conceptually consolidate and clarify trust from a psychological approach. In doing so, this chapter aims to situate the definition and operationalisation of trust adopted in this research within the broader trust literature. The chapter will then move on to explore the different referents of trust in an organisational context and focus on interpersonal trust between an individual trustor and trustee. It is important to note that the terms trustor and trustee refer to roles within the relationship rather than specific individuals or groups and throughout any interaction these roles may alternate between the parties involved (Gargiulo & Ertug, 2006). This chapter aims to provide an overview of the role of trust within a wider nomological network of constructs in organisational psychology. To achieve this, the role of trust as an antecedent will be examined as well as the variables which are typically used to predict trust within organisations. In closing, this chapter recognises that high or unconditional trust is not always a positive state and the notion of an optimal level of trust in a relationship will be discussed.

### **3.2 Definition of the Construct**

The examination of trust across different research disciplines has strengthened the trust literature by providing a breadth of perspectives not seen in concepts examined solely in one discipline. However, the diversity and scope a multidisciplinary approach provides, has also created issues with how trust is conceptualised and operationalised within and across disciplines. Barber (1983) contends that up until the mid 1980s trust had been left almost undefined due to a presumption that its meaning was implicitly understood. Despite the attempts of several prominent theorists, a universally accepted definition of the term trust does not exist (Kramer, 2006). Across the literature, trust has been conceptualised as a cooperative action (Deutsch, 1958; Williamson, 1993), an economic asset (Casson & Della Giusta, 2006) or organising principle (McEvily et al., 2003), a personality characteristic (Rotter, 1971), an ethical or moralistic expectation (Hosmer, 1995), an attitude (Whitener, Brodt, Korsgaard, & Werner, 1998), a relational property (Flores & Solomon, 1998), or a psychological state (Rousseau et al., 1998). The utility and history of each of these perspectives will now be explored.

#### **3.2.1 Trust as a Cooperative Choice Behaviour**

One traditional approach to defining trust is to view it as a cooperative choice or action. Research in this tradition is influenced by the seminal work of Deutsch (1958) who discussed trust in terms of rational choices in cooperation and competition. From this perspective, individuals are believed to behave in a cooperative or competitive manner in order to maximise gain and minimise loss in interpersonal transactions. This approach has received support predominantly from economic and political researchers. For instance, Williamson (1993) proposes that

trust is implied when an individual chooses to accept risk in interacting with others based on probability assessments or calculations of future cooperation.

Kramer (2006) outlines two advantages of this behavioural approach. First, trust as a cooperative choice is easily observed in an interpersonal context. Secondly, there are well developed empirical methods for investigating this conceptualisation of trust. A large body of empirical research continues to examine trust as cooperative behaviour in simulated laboratory-based games (e.g. the prisoner's dilemma game). Typically, participants in these mixed-motive games have no past history and trust levels are assumed to begin at a zero baseline (Lewicki et al., 2006). Participants in these studies must decide to what extent they would like to cooperate or compete with another participant. In these games, trust is indicated by cooperative behaviour from the decision maker in the game; while competitive behaviour is viewed as a lack of trust.

Though the behavioural perspective of trust has received a great deal of support over the last half a century, it has also been subject to a number of criticisms. Perhaps most importantly, changes in trust levels in laboratory games are inferred by changes in levels of cooperation. However, these changes need not reflect a change in trust but could be due to other factors such as participant decision error or boredom (Lewicki et al., 2006). Rotter (1967) also critiques the mixed-motive method of studying trust as such scenarios represent a very specific and highly competitive situation which is difficult to generalise to real life. Furthermore, in contrast to the behavioural tradition, recent theorists distinguish between trust and cooperation as separate concepts (e.g. Dirks & Ferrin, 2001; Mayer et al., 1995; Möllering, 2001). The majority of researchers continue to consider trust to be an antecedent of

cooperation; however some have positioned trust as an outcome of cooperation (Ferrin, Bligh, & Kohles, 2007). Nooteboom (2006) argued that trust should be distinguished from action or behaviour and should be viewed instead as a state of mind which precedes trusting action. In addition to critiques of the use of cooperative behaviour as an indicator of trust, theorists have pointed out other disadvantages of the behavioural perspective. A view of trust as choice behaviour ignores the influential role of social and emotional factors, as well as the impact of individual perceptions and attributions of observed behaviour (Six, Nooteboom, & Hoogendoorn, 2010). Granovetter (1985) claims behavioural views of trust provide, at best, an under socialised account of the construct.

### **3.2.2 Trust as an Economic Asset or Institutional Phenomenon**

It is often suggested that trust should be viewed and defined according to its value as an economic asset. Research in the fields of economics and management science has demonstrated the significance of trust in reducing transaction costs within and between organisations (e.g. Dyer & Chu, 2003), increasing the value of transactions (Zajac & Olsen, 1993), and benefiting economic development (Fukuyama, 1995) and growth (Zak & Knack, 2001). From this perspective, trust is seen as an intangible and unfortunately scarce asset which provides predictability and propensity to honour obligations (Casson & Della Giusta, 2006). Trust is also seen as an economic asset as it reduces the necessity for legal contracts and sanctions and enhances the effective flow of information exchange between two parties (Della Giusta, 2008).

In a special issue on trust in Organisation Science, McEvily et al. (2003) discuss the utility of considering trust as an organising principle within organisations.

As such, trust is regarded as a frame of reference which allows organisations and their employees to attain goals despite issues which arise through interdependence and uncertainty. Trust is proposed to affect organisations by influencing the social structure and mobilising individuals to contribute resources to achieve organisational goals (McEvily et al., 2003). Bachmann (2011, p. 207) agrees that trust is a decision made on the basis of and embedded within “specific institutional arrangements” and argues that micro level conceptualisations of trust are decontextualised and limited in their explanatory power.

Views of trust as an economic asset are useful for research examining trust at a macro level. However, for investigations of interpersonal trust, this perspective lacks insight into the personal nature of individual trust decisions and relationships. Opponents of this view suggest that the economic approach is dehumanising and “dangerously incomplete and misleading” (Flores & Solomon, 1998, p. 208). Others have proposed that trust as an institutional phenomenon is one of many sources of evidence for individual trust decisions (e.g. Dietz, 2011; Kramer & Lewicki, 2010).

### **3.2.3 Trust as a Personality Characteristic**

The conceptualisation of trust as a personality characteristic is also known in the literature as trait trust, propensity to trust, generalised trust or dispositional trust. According to this perspective, individuals differ in their tendency to trust others and possess low or high trust levels based on a generalised expectancy or attitude about the reliability of others (Rotter, 1967). From a social learning perspective, Rotter (1967; 1971) argues that generalised expectancies and attitudes are learned either through direct modelling or verbal statements from other individuals (e.g. parents and peers). Rotter (1967) posits that dispositional trust exerts more impact in novel

situations where the individual is not familiar with the other party. In the field of individual differences this aspect of trust has also been studied as a dimension of agreeableness (e.g. the NEO Personality Inventory, Costa & McCrae, 1992). For example, in a study of software project team members, Mooradian, Renzl and Matzler (2006) linked dispositional trust to knowledge sharing behaviours within teams. Mooradian et al. (2006) suggest that this facet of trust is not specifically directed towards any particular person, group, or context and is built on life experience, temperament, genetics and bio-physiological factors.

Although the majority of researchers now acknowledge that trust is inherently relational, trust theorists generally recognise that the concept has a generalised, dispositional component. Kramer (1999) asserts that while the existence of dispositional trust is accepted, organisational theorists have not focused their interest in researching the concept. For the purposes of establishing a definition of trust, it is clear that dispositional trust does not adequately explain the influence of either the trustee or the environment in which the trust decision is made (Tan & Lim, 2009). Moreover, trust conceived as a personality characteristic implies that trust levels should remain relatively stable. Evidence from empirical studies has demonstrated that trust is in fact a fragile and often unstable state (Kramer, 1999). Nevertheless, propensity to trust continues to be discussed and appears as a variable in one of the most influential models of interpersonal trust (i.e. Mayer et al. 1995). The concept of propensity to trust, its origins and impact on the development of trust relationships, will be explored in more detail later in this review.



### **3.2.4 Trust as an Expectation (Perceptual or Attitudinal)**

An alternative to the behavioural or economic approaches is to view trust as an expectation or set of expectations belonging to the trustor in relation to the behaviour of others or the outcome of events. Barber (1983) defined trust as a set of optimistic expectations regarding (i) the fulfilment of social order, (ii) the competent performance of others and (iii) the satisfaction of role related duties and responsibilities. Nooteboom (2006, p.252) describes trust as “expectation that a partner will not engage in opportunistic behaviour, even in the face of opportunities and incentives for opportunism”. Similarly, Lewicki, McAllister and Bies (1998) maintain that trust involves confident positive expectations about another party’s behaviour. That is, confident positive expectations are thought to entail belief in, virtuous attributions about, and willingness to act on another party’s behaviour. Hosmer (1995, p.393) extends this perspective by arguing that a definition of trust should contain a moral dimension, such that trust involves an expectation that the trustee will “recognise and protect the rights and interests of all others engaged in a joint endeavour or economic exchange”.

Trust expectations are generally thought to be based either on a general attitude about the way in which people and social systems function, or on perceptions of the actual behaviour of a particular individual or group. In his analysis of the work of Georg Simmel, Möllering (2001) describes trust expectations as a combination of the interpretation of reality and a mental leap or suspension of uncertainty. Hardin’s (1996) account of encapsulated interest suggests that expectations are rational and based on the trustor’s belief that their interests will be met as they are aligned to, or encapsulated by the trustee’s own interests. Thus, Hardin’s theory of trust is very

specific, rather than a general decision to trust a particular person or entity. In his work, Hardin (1996) speaks about trusting a particular person to do a particular task.

Despite the popularity of the trust as a rational expectation approach, some theorists have claimed that it fails to fully account for the true nature of trust relationships (Hardin, 2002). One particular criticism that has been levelled at these definitions is that their limited focus on cognitive influences on trust decisions ignores social and emotional factors (Kramer, 2006).

### **3.2.5 Trust as a Property of a Relationship**

A stream of research which has focused on the social nature of trust suggests that trust should be viewed as an aspect of a relationship. When approached from this perspective, trust levels are proposed to vary across different relationships and within the person (Schoorman, Mayer, & Davis, 2007). In this literature, theorists discuss the extent of dependence and interdependence in a relationship as an important building block of trust (Sheppard & Sherman, 1998). Early proponents of this view, such as Granovetter (1985), argued that trust in economic exchanges could not be removed from the informal social relationships involved, or the social obligations arising out of the relationship itself and society. Zucker (1986) characterised trust as a product of reciprocal social ties, social similarity and confidence in the institutional context of the relationship. Flores and Solomon (1998) consider trust as a particular type of relationship, a social practice or process which should not be viewed as an entity or resource, or even employed in its common usage as a noun. Trust is proposed to be created through verbal and nonverbal behaviour in relationships, it does not exist outside of, or in advance of, the relationship and is not created in the head of the trustor (Flores & Solomon, 1998). As Lewis and Weigert (1985, p. 968)

noted “trust must be conceived as a property of collective units (i.e. ongoing dyads, groups and collectivities), not of isolated individuals. Being a collective attribute, trust is applicable to the relations among people rather than to their psychological states taken individually”.

Although some theorists have criticised this approach as over socialised with too much emphasis on common values and norms (Lane, 1998; Sydow, 2006), this literature has had a substantial influence on the most commonly cited definitions in current trust research. It is now widely accepted that trust is a dyadic or group process (e.g. Mayer et al., 1995) and only occurs in the context of social interactions and relationships. The currently popular view of trust as a psychological state combines the ideas from the expectation and relationship based perspectives to present a more holistic conceptualisation of trust. These contemporary attempts to combine previously disparate fields of research will be discussed below.

### **3.2.6 Trust as a Psychological State**

Throughout the 1990s, trust theorists called for and attempted integration of the trust literature from each of the different academic disciplines and perspectives. Among the most prominent of these were attempts made by Rousseau et al. (1998) and Lewicki and Bunker (1996). Although a universal definition of trust has not yet been accepted by all disciplines, the work of these theorists has moved the field closer to consensus. Indeed, in the fields of psychology and organisational behaviour, trust is now commonly construed as a psychological state of the trustor.

In an introduction to a special issue of the *Academy of Management Review*, Denise Rousseau and her colleagues sought to summarise existing assumptions and

knowledge about trust and created a multidisciplinary definition of the construct. In their paper, trust is defined as “a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviour of another” (Rousseau et al., 1998, p.395). Rousseau et al.’s conceptualisation of trust is currently one of the most widely accepted definitions of the construct and this special issue introductory article is among the most powerful, influential papers published to date in the trust area (Castaldo, Premazzi, & Zerbini, 2010). In this definition Rousseau et al. (1998) combine aspects of previous perspectives, including a view of trust as an expectation or confident economic calculation while clearly distinguishing trust from personality traits or cooperative behaviours. Rousseau et al. (1998) generated the definition based on agreement across the different perspectives that two conditions, interdependence and risk, must be present for trust to exist. Sheppard and Sherman (1998) maintain that all relationships differ in terms of the degree of dependence or interdependence between parties. Interdependence is seen as the degree to which the parties in a relationship rely on each other to achieve a desired goal. Risk, or the possibility of loss, is the second condition necessary for trust. Risk arises out of issues associated with interdependence, for example one party may be unreliable, indiscrete, or engage in cheating (Sheppard & Sherman, 1998).

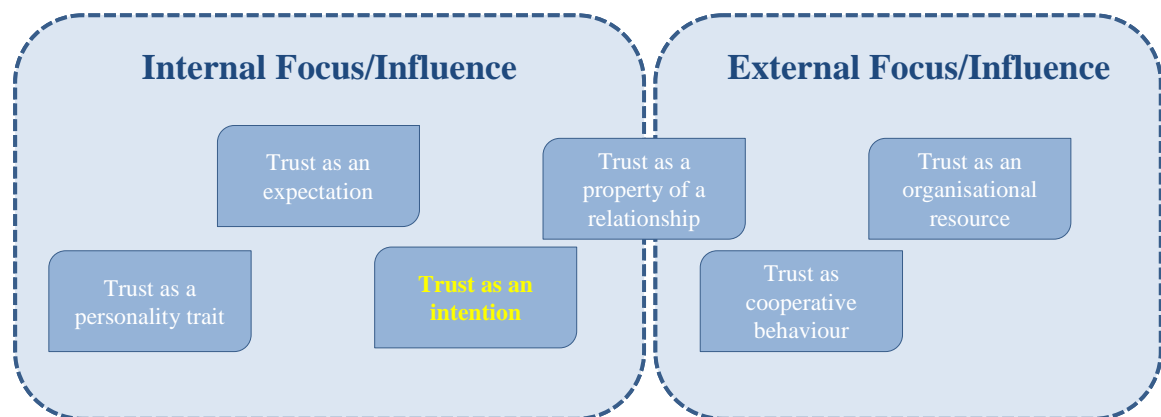
### **3.2.7 The Definition of Trust in the Present Study**

The notion of trust as a psychological state, which changes in form as a relationship develops, is now generally accepted across the organisational sciences. Currently, the most widely accepted definition of trust is that of Rousseau et al. (1998) in which trust is described in a manner that combines two important perspectives, a psychological state of willingness to be vulnerable (e.g. Mayer et al.,

1995) and a positive expectation of others (e.g. Barber, 1983; Lewicki et al., 1998). This combination is key to the popularity of Rousseau et al.'s (1998) definition as a willingness to be vulnerable and beliefs about trustee intentions are key components in the majority of perspectives on trust (Lewicki & Brinsfield, 2012). In recent years, organisational scholars have increasingly focused their attention on trust as an intention to behave consisting of two dimensions: reliance on others and disclosure of information to others (Gillespie, 2003). Gillespie's (2003) conceptualisation of an intention to engage in trust behaviour builds on the Rousseau et al. (1998) definition of trust as a psychological state and provides a superior method of operationally separating trust from its antecedents. In contrast to a traditional behaviouralist view of trust as a cooperative action (e.g. Deutsch, 1958), Gillespie's (2003) model defines trust as an *intention* to engage in behaviour which increases vulnerability. In comparison to previous distinctions between trust and trust behaviour (e.g. Mayer et al., 1995), Gillespie's (2003) conceptualisation is closer to trust as it represents a willingness to take a risk rather than actual risk-taking behaviour. Importantly, this definition also avoids reducing trust purely to beliefs about the intentions of others (Gillespie, 2012). In accepting Gillespie's (2003) model, trust in this study is viewed as a decision to engage in trust behaviour which is based on one or more sources of evidence. This is in line with a view of trust as a three stage process (McEvily et al., 2003) consisting of perceptions of the other party, a decision or willingness to be vulnerable and a risk taking act. McEvily and Tortoriello (2011) argue that Gillespie's operationalisation of trust offers a means of fully assessing the second stage of the trust process, a trust decision, while also providing a proxy measure for a more behavioural form of trust. The sources of evidence on which trust decisions are based are explored in detail in Chapter 4. Figure 3.1 positions Gillespie's (2003)

conceptualisation of trust in relation to the other perspectives discussed in this chapter. It is suggested that this definition overlaps with conceptualisations of trust as an expectation but has a more external focus as it incorporates a willingness to be vulnerable within the trust relationship.

**Figure 3.1. Positioning of Gillespie’s (2003) Conceptualisation of Trust**



The inclusion of more than one dimension is also a significant strength as it emphasises the contextual nature of trust (e.g. Hardin, 1996) and allows researchers to distinguish between two trust behaviours which are common to the majority of workplace relationships. This distinction offers a means of determining *what* an individual might trust another party to do, as well as *how much*. This relatively new operationalisation of trust as reliance and disclosure behaviours increases the need for research to examine how trust related behavioural intentions develop and how they are related to other common trust variables. This process can be studied at several levels of analysis. As relationships located at and between levels have different characteristics, the level of analysis should be taken into account when exploring trust in the workplace. This will be discussed in more depth in the next section.

### **3.3 Trust Foci and Levels of Analysis**

Trust defined as a psychological state is not relevant to an individual in isolation and can only arise with the existence of another party. Any conceptualisation of the trust construct must include both a clear definition and an identified referent (Dirks & Ferrin, 2002). The referent of trust is the individual trustee or group in which trust is placed; this can include inter-organisational trust, trust between subordinates and superiors, and coworker or peer trust. Trust can also manifest across levels, an individual's trust in an organisation, or at a group level where a team of employees working together perceive the level to which they are trusted by the organisation (Salamon & Robinson, 2008). Meta-analyses of trust research have shown that the effects of trust on employee outcomes differ depending on the trust referent (e.g. Colquitt et al., 2007; Dirks & Ferrin, 2002). Research also demonstrates that trust in different referents influences positive outcomes through different mediating mechanisms (Chughtai & Buckley, 2013). Moreover, trust at one level will not necessarily extend to trust at another, for example an employee may trust their coworker or immediate supervisor but not the organisation itself (Tan & Tan, 2000). The different levels at which trust can be studied in the context of organisations are discussed below.

#### **3.3.1 Inter-organisational Trust**

As global economies push organisations towards alliances, business networks and outsourcing, the study of trust in inter-organisational relationships has attracted attention from several researchers (e.g. Ring & Van de Ven, 1994; Vlaar, Van den Bosch, & Volberba, 2007). The majority of academics and practitioners agree that trust is an important ingredient in long-term cooperation between interdependent

organisations (Bachmann, 2006). Gillespie and Dietz (2009) identify six aspects of an organisation which signal its trustworthiness to other organisations or individuals: leadership and management practices, organisational culture and climate, organisational strategies and values, the structures, policies and processes within the organisation, the public reputation of the organisation and the external governance imposed on organisational behaviours or actions. Factors such as these can be manipulated by the organisation as mechanisms to develop inter-organisational trust in different situations (Bachmann & Inkpen, 2011).

Inter-organisational trust can take the form of personal trust between individuals in different organisations, or system or institutional trust based on the abstract impersonal rules embedded in a system (Luhmann, 1979). Some theorists have argued that an organisation can be the trustee in a relationship but not the trustor (Zaheer, McEvily, & Perrone, 1998), and if trust is defined as a psychological state, the trustor in such relationships must always be an individual (Janowicz & Noorderhaven, 2006). To address this issue, inter-organisational trust is often classified as a shared attitude or orientation which organisational members hold towards another organisation (Dyer & Chu, 2003; Zaheer et al., 1998), or as the perception of a focal individual in one organisation that another organisation will not behave opportunistically (De Jong & Woolthuis, 2009).

### **3.3.2 Organisational Trust**

Trust in an organisation is defined by Gambetta (1988) as an employee's perception and evaluation of the trustworthiness of an organisation. It has also been described as a willingness to be vulnerable to the actions of an organisation (Tan & Lim, 2009). Research shows that individuals from collectivist cultures with strong in-



group biases are less likely to express trust for organisations other than their own (Huff & Kelley, 2003). While organisational researchers have focused on the organisational trust levels of employees in their own organisations, organisational trust has also been studied on a wider social level. For example, trust in governments or social systems the trustor is not a member of, or customer trust in organisations which has been shown to influence use of technology systems such as internet banking (e.g. Yousafzai, Foxall, & Pallister, 2010). McEvily, Weber, Bicchieri and Ho (2006) examined the trust an individual has in a collective entity and demonstrated that trustors infer trustworthiness to members of a group even if the initial trustworthy behaviour was displayed by a different member of the group.

Although more personal forms of trust can be built on dyadic interactions and individual perception, it is less clear how an individual might develop trust in a collective entity such as an organisation. Möllering (2006) proposes that individual trust in a group or institution is built through direct experience of the institution itself and observation that institutions in general function effectively. Alternatively, Tan and Lim (2009) suggest that organisational trust is built on the communication of the organisation's actions through informal and formal networks and that trust in other referents within the organisation contribute to organisational trust levels. It may be that organisations only become trust referents when it is not possible to discern which individual manager or level of management has made which decisions (Mayer & Davis, 1999).

### **3.3.3 Interpersonal Trust**

Interpersonal trust refers to trust relations at an individual level which can be studied in the context of the wider organisation. McCauley & Kuhnert (1992)

differentiate between lateral and vertical interpersonal trust, lateral trust refers to trust between peers while vertical trust refers to trust between an employee and their supervisor or leaders.

#### **3.3.4 Trust in Leaders**

Leaders within an organisation possess formal and informal power which gives them great influence over employees (Dirks, 2006). Trust in leaders is considered important as high levels of trust allow an employee to rely on and follow a leader's directions, objectives and strategies, making coordinated efforts to achieve organisational goals more effective (Dirks, 2000). Additionally, employees are highly vulnerable to the decisions leaders make regarding their careers, rewards and everyday work practices and so are concerned with whether leaders can be trusted (Dirks, 2006). Research indicates that due to the nature of trust, the differing perspectives of trustors and trustees play a significant role within working relationships. In vertical relationships, where the power difference is a central characteristic of a relationship, the differing perspectives of the two parties are magnified. Werbel and Lopes Henriques (2009) investigate this phenomenon and report that in vertical relationships supervisors are more concerned with receptivity, availability and discreteness. While subordinates also consider availability and discreteness important they also concentrate on openness, integrity and competence when making their trust decisions.

Empirical evidence shows that trust in different levels of management will impact an employee in different ways (Mayer & Gavin, 2005). A distinction is commonly made in the literature between trust in top management or leadership and trust in a more immediate supervisor or manager. Through their influence on

organisational culture, systems and processes, the leadership team in any organisation is an important trust referent. Trust in top management teams and chief executive officers has attracted interest recently as the number of organisations involved in scandals and bankruptcies has increased (Costigan, Insinga, Berman, Kranas, & Kureshov, 2011; Kramer, 2009). This research on trust in top management overlaps significantly with the general leadership literature. For example, transformational leaders are thought to motivate their employees to exceptional performance through high levels of trust and respect for the leader (Gillespie & Mann, 2004).

Trust in immediate supervisors has also received considerable attention in the organisational research, and empirical studies on interpersonal trust have traditionally focused on this relationship. The supervisor is generally seen as the employee's most direct link with the organisation and acts as a medium through which the employee experiences many of the organisation's policies and decisions as well as the manager of day to day work tasks. Managers are thought to initiate trust relationships with subordinates through their decisions to share key information or not (Tyler & Degoe, 1996). Similarly, research shows that employees actively seek information about the availability and openness of their supervisor's communication in order to enlighten their trust decisions (Werbel & Lopes Henriques, 2009).

The importance of trust in any relationship is likely to be a function of how vulnerable the trustor is to that particular referent (Dirks, 2000). As such, it can be expected that trust is most important in relationships where the individual has close contact with the referent (Mayer & Gavin, 2005). In addition, team processes have been demonstrated to be central to the social construction of trust in leaders (Shamir

& Lapidot, 2003). This suggests that peers and coworkers have a vital role to play in the formation of interpersonal trust.

### **3.3.5 Trust in Coworkers**

Developments in the structure of the typical organisation have created a new type of workplace where the majority of employees work in teams (Lau & Liden, 2008). This is beginning to impact the academic trust literature and many researchers are now calling for more empirical work focused on trust dynamics within teams and between coworkers (e.g. Yakovleva et al., 2010). Trust relations between coworkers represent a horizontal trust link between parties with relatively equal power who interact regularly and form informal information networks within the organisation (Tan & Lim, 2009). Coworker trust is critical to the everyday functioning of an organisation as it allows employees to act under the assumption that their peers will support them and that they can have confidence in the words and actions of their colleagues (Ferres et al., 2004). Lau and Liden (2008) identify three further rationales for the importance of coworker trust. First, when coworkers trust each other they are more willing to help each other out as they feel it is likely to be reciprocated. Secondly, work tasks are typically interdependent and trust promotes collaboration and coordination between coworkers as it improves team decision making and proactive behaviour. Finally, individuals that trust their coworkers are more likely to exert extra effort as they feel it will be reciprocated and their joint efforts will be recognised and rewarded by the organisation. Researchers examining multiple interpersonal referents (e.g. Yang & Mossholder, 2010) argue that referents who are psychologically and physically more proximal (i.e. those with whom we interact everyday) will elicit stronger reactions than more distal referents. This psychological

and physical proximity is especially true of coworkers who often collaborate and work side by side in achieving their tasks. Indeed, employee experiences at work have shifted in recent years away from reliance on the supervisor and towards a reliance on coworker relationships (Dirks & Sharlicki, 2009).

As can be seen from the literature, there are a number of different trust relationships of interest to researchers. At different levels, trust relationships are subject to differing influences and associated with different outcomes making the focus of trust important both practically and theoretically (Fulmer & Gelfand, 2012). For organisational psychologists, who typically adopt a micro-meso perspective, perhaps the most important of these is interpersonal trust. Ultimately trust perceptions and decisions take place at an individual level (De Jong & Elfring, 2010), thus exploring the nature of interpersonal trust allows researchers to further explore trust as a psychological state. In response to calls from numerous theorists in the area, this study will focus primarily on interpersonal trust amongst coworkers.

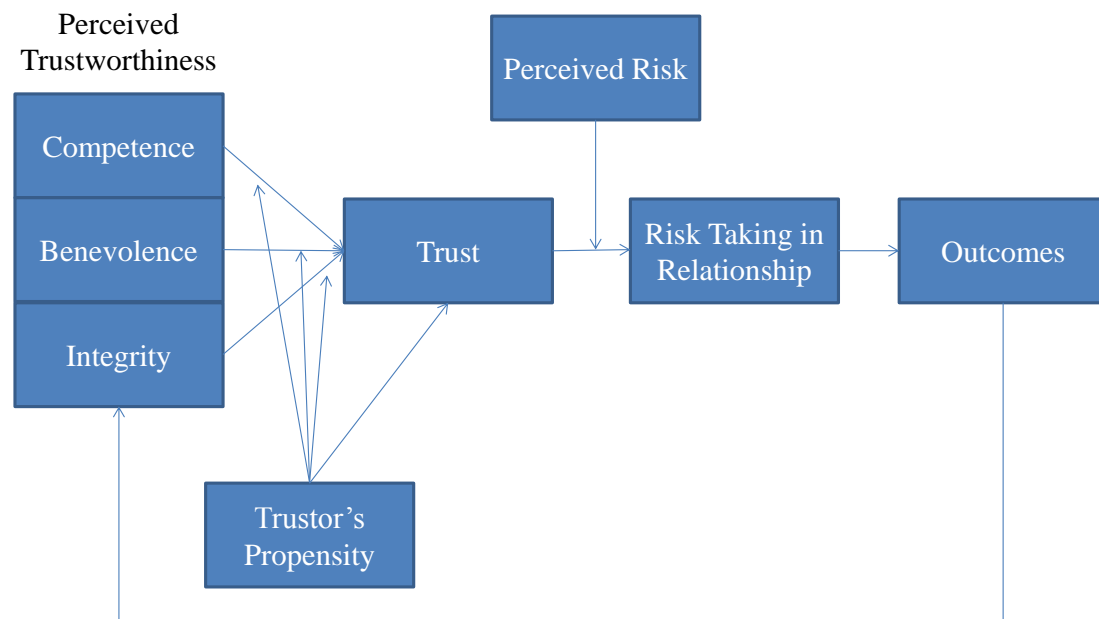
### **3.4 A Focus on Interpersonal Trust**

If trust is an interpersonal process then both parties should be considered in any model of how a trust decision is made. The first model designed to examine trust as a dyadic process in organisations was proposed by Mayer et al. (1995). A major motivation behind the development of the Mayer et al. (1995) model was the confusion that arose in the field in distinguishing trust from similar and closely related constructs. This section will outline the main features of Mayer's model and its contribution to the trust literature before focusing more specifically on the concepts of trustworthiness and propensity to trust.

Mayer et al. (1995, p.712) defined trust as “the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party”. The model proposed that perceived trustworthiness (i.e. the personal attributes of the trustee) and propensity to trust as antecedents of trust which predict risk-taking in relationships. Propensity to trust is also thought to moderate the trustworthiness-trust relationship (see Figure 3.2). As such, trust as a willingness to be vulnerable is distinguished from trust as a personality characteristic, trust as an expectation based on the characteristics of the other party and trust as a risky or cooperative behaviour. The feedback loop specified in the model explains how positive or negative outcomes of risk-taking behaviours influence future perceptions of trustworthiness (Mayer & Gavin, 2005). The theorists claim that the model is robust across different levels of analysis (Schoorman et al., 2007; Serva, Fuller, & Mayer, 2005) but its use in the literature has been predominantly in the context of interpersonal relationships.

**Figure 3.2. Mayer et al.'s Model of Organisational Trust.**

Adapted from Mayer, Davis, & Schoorman (1995).



However, while the Mayer et al. (1995) model was the first to portray trust as a dyadic process in organisational settings, it is not without limitations. Although the model considers the dynamic and dyadic nature of trust it depicts the trustor as passive, reacting to external stimuli to make a cognitive trust decision. An alternative model of dyadic trust was offered by Simpson (2007) which offers an explicit role for affect and the proactive behaviour of both parties in a relationship. However, unlike the Mayer et al. (1995) model, Simpson's theory of trust was developed for the context of close personal relationships and its principles and assumptions are based on research in that field. It is unknown whether it might extend to interpersonal relationships in an organisational or business context (Simpson, 2007). It has been suggested that a model of overall trust in any organisational relationship is inappropriate as trust is domain specific and it is possible to trust an individual or group in one context but not others (Chen, Saparito, & Belkin, 2011). To advance

theory in this area, future models may need to provide a more context specific view of interpersonal trust in organisations. Additionally, a lack of longitudinal empirical research has made it difficult to fully understand the processes and time frames involved in Mayer et al.'s (1995) model (Schoorman et al., 2007).

Despite its limitations, the Mayer et al. (1995) model has been extremely influential and is widely cited in both empirical and theoretical trust research. Perhaps the most important contribution the model made to trust literature is the separation of trust from characteristics of the trustor (i.e. propensity to trust) and characteristics of the trustee (i.e. trustworthiness). These concepts will be discussed in detail below.

### **3.4.1 Trustworthiness**

Trustworthiness is a virtue or characteristic of the trustee which has often been confused with trust itself. Hardin (2006) explains that the difference between trust and trustworthiness is that trustworthiness is a moral issue while trust is not. McEvily et al. (2003) argue that if trust involves expectations, the distinction lies in the fact that trustworthiness represents actual intentions, motives and competencies while trust represents perceptions of the same phenomena.

According to Mayer et al. (1995), the trustworthiness concept is made up of competence, benevolence and integrity. Competence describes abilities and skills in a domain specific area; benevolence refers to a positive orientation, loyalty, or intent to act in the interests of the trustor without any egocentric motive (Mayer et al., 1995). The final component of trustworthiness defined by Mayer et al. (1995) is integrity, the trustor's belief that the trustee behaves according to a set of acceptable moral and



ethical principles. Although both benevolence and integrity represent beliefs about the trustee character, benevolence is thought to have a more affective basis while integrity is a rational decision about the trustee's fairness and predictability (Colquitt et al., 2007). Interestingly, from this perspective, trustworthiness is not simply a question of cooperation versus exploitation as traditional behavioural approaches to trust would imply. A trustee may intend to be trustworthy but may not possess the ability to behave in the interests of the trustor (Malhotra, 2004). For instance, trust in a skydiving partner is not only a belief that they will behave with integrity and benevolence but that they have the ability and knowledge to know when to engage the parachute. In a similar vein, trust in an external consultant involves confidence that they have the sufficient experience and knowledge to assist in a project, along with a belief that they will not share confidential information with outside parties or act to harm the organisation or individual employee with whom they are working.

Since Mayer et al.'s (1995) model was proposed, empirical researchers have questioned whether all three trustworthiness components have an independent role to play in the creation of trust. Some studies have found the trustworthiness dimensions to be highly correlated and have not found unique effects for each dimension (e.g. Jarvenpaa, Knoll, & Leidner, 1998). Others have reported that certain trustworthiness dimensions are more important than others in predicting trust development (Frazier et al., 2010; Mayer & Gavin, 2005). In contrast, some researchers have found support for the model and report significant impact of three distinct trustworthiness factors on outcomes measured (Davis, Schoorman, Mayer, & Tan, 2000; Mayer & Davis, 1999). In their meta-analytic review of the trust literature, Colquitt et al. (2007) found that although the three trustworthiness dimensions were intercorrelated, each showed a unique, significant relationship with trust.

Mayer et al. (1995) suggest that trustworthiness should be thought of as a continuum rather than an all or nothing concept. While competence, benevolence and integrity are separate dimensions, they are related and no one factor alone can lead to high trustworthiness (Mayer et al., 1995). According to the authors, a high level of all three factors is the ideal environment although not the only one to result in perceived trustworthiness. It is expected that the trustworthiness factors would take on differing levels of significance depending on the situation and context (Chen et al., 2011; Mayer & Davis, 1999). Competence is likely to be more influential in highly technical situations, while integrity would be more salient if the situation involved dealing with sensitive information. Differing contributions are also expected based on the context of the trust relationship and the type of job, with integrity proving more significant in managerial jobs and the service industry as opposed to manufacturing roles (Colquitt et al., 2007).

Alternative conceptualisations of trustworthiness have been proffered. For instance, Mishra (1996) identifies four factors of trustworthiness. Competence describes the trustee's capability and expertise in a certain domain; openness refers to the trustee's tendency to share key information with the trustor and to put themselves at risk in doing so (Mishra, 1996). The third factor described in Mishra (1996)'s model is reliability or a propensity to honour commitments and promises, and the final factor is concern for the interests and needs of the other party. Mayer and colleagues (1995) argue that Mishra's (1996) definition of trustworthiness can be encompassed in their own model. Specifically they propose that the conceptualisation of competence is common to both models, caring and openness reflect trustee benevolence and reliability and openness can be construed as facets of integrity (Mayer et al., 1995).

Although it appears that trustworthiness has received less research attention than trust (McEvily et al., 2003), measures of trustworthiness perceptions are often used as a proxy for measuring trust and sometimes the terms are used interchangeably (e.g. Becerra & Gupta, 2003). Moreover, many theoretical accounts of trust have used the terms interchangeably without clear distinction between these two concepts (Hardin, 2006). In general, it is agreed that trustworthiness is a precursor of trust in a relationship, although it is by no means the only antecedent.

### **3.4.2 Propensity to Trust**

As discussed earlier in this review, trust has often been conceptualised by psychologists as a dispositional characteristic or personality trait. While this approach has been challenged in recent years, Mayer et al.'s (1995) positioning of propensity to trust as a separate but influential variable in trust decisions has revived the popularity of the construct. In contrast to trustworthiness, propensity to trust is typically described as a characteristic of the trustor and is a generalised type of trust that is not specific to any referent or context.

Mayer et al. (1995, p.715) define propensity to trust as a “general willingness to trust others”. Propensity to trust is a dispositional trait related to personality characteristics such as agreeableness (Yakovleva et al., 2010). Agreeableness, as defined by Costa and McCrae (2003), is made up of six sub categories, modesty, compliance, tender-mindedness, straightforwardness, altruism and trust. Theorists have investigated this conceptual overlap in an organisational setting and agree that propensity to trust is a facet of agreeableness (Mooradian et al., 2006). McKnight et al. (1998) divided the propensity to trust concept into two distinct dimensions, faith in humanity and trusting stance. Faith in humanity reflects a more typical view of

propensity to trust and refers to a belief that people are generally well meaning and reliable, while trusting stance refers to a choice to deal with others as though they are trustworthy due to a belief that this will lead to better outcomes.

Propensity to trust is thought to be adaptive in evolutionary terms in that it promotes bonding from birth and ensures that individuals cooperate to ensure species survival (Kramer, 2009). However, as Kramer (2009) cogently notes, at an individual level it also makes individuals vulnerable to the risks inherent in trusting others. Kramer (2009) discusses two cognitive illusions which increase our propensity to trust. The illusion of personal invulnerability involves a belief that bad things are unlikely to happen to us, while the illusion of unrealistic optimism refers to confidence in the likelihood of good things happening. It has been suggested that propensity to trust may provide the leap of faith that early trust researchers discussed (Mayer et al., 1995).

As propensity to trust is a relatively stable trait that fluctuates over time around an average level, theorists have suggested that it may have a biological or cultural foundation (Nannestad, 2008). Recently, studies have begun to examine the biological basis for propensity to trust to help us to understand why some individuals display higher dispositional trust tendencies than others. One hormone which appears to impact trust in individuals is oxytocin. Oxytocin was originally studied for its role in bonding behaviours and social attachment but researchers have also investigated its effects on trust. This research has discovered that administering oxytocin to players in a laboratory trust game increases their willingness to accept risks, and that the effect is particular to risks associated with interpersonal interaction rather than general risk-taking behaviour (Kosfeld, Heinrichs, Zak, Fischbacher, & Fehr, 2005). Since

the early twenty first century, biologists and personality theorists have claimed that propensity to trust is genetically heritable and this idea is slowly gaining ground in the fields of sociology and politics (Sturgis, Read, Hatemi, Zhu, Trull, Wright, & Martin, 2010). In a study of the trust propensities of a sample of Australian twins, Sturgis et al. (2010) reported a substantial genetic component to this category of trust. Their research also showed that non-shared environmental factors also play an important role but not shared environmental factors.

Others argue that an individual's propensity to trust develops through socialisation in childhood and can be learned or change over time through direct experience. As Hardin (2006, p.32) notes, "trust cannot be produced at will, although it can be wilfully instilled, as in children". Hardin (2006) describes a Bayesian learning account of trust which posits that low trust stances develop from childhoods characterised by abuse, neglect and situations where trusting behaviour was punished. An alternative stance is that generalised trust levels are embedded in our culture. International surveys such as the World/European Values Survey and the European Social Survey attempt to assess general levels of trust and have shown that propensity to trust varies widely across countries (Nannestad, 2008). Recent data from the European Social Survey (2010) suggests that 32.2% of Irish respondents agree that most people can be trusted. A seminal study of the interaction between trust and culture was conducted by Fukuyama (1995). Recent evidence agrees that individuals from different cultural backgrounds differ in their trust beliefs and assumptions (Gunia, Brett, Nandkeolyar, & Kamdar, 2011).

As a construct, propensity to trust has attracted debate across a number of disciplines. To date it is unclear whether its origins are biological, cultural, or

developmental but many social scientists recognise that it is likely to be a combination of these that influence an individual's general tendency to trust others (e.g. Mayer et al., 1995). In general, measures designed to look at trust as a dispositional factor have failed to be reliable in predicting levels of trust in relationships (Dirks & Ferrin, 2002). Additionally, propensity to trust holds little predictive value for other behaviours and outcomes as it is not referent or context specific (Tan & Lim, 2009). However, it is clear from the research that individual propensities to trust do have some impact on trust in relationships, particularly in certain situations. If trustworthiness and propensity to trust are antecedents to trust, as Mayer et al. (1995) suggest, it seems they describe only part of the picture. In their meta-analysis of the impact of trust, trustworthiness and propensity to trust on work behaviours, Colquitt et al. (2007) call on empirical researchers to investigate other variables which interact with trust in an organisational context.

### **3.5 Trust as a Variable in Empirical Research**

Since trust has been recognised as an important variable in organisational settings, researchers have devoted a large section of the literature to examining trust as an independent or dependent variable and determining its correlates. This section will discuss the key variables which have been linked to trust within organisations with the aim of providing an overview of the nomological network of trust in the workplace. Although this represents a shift in focus from the *what* and *who* of trust, the nomological network surrounding the trust concept has been greatly influenced by the definitional issues discussed above. As Nannestad (2008) notes, the absence of a universally accepted theory or definition of trust has expanded the list of explored potential correlates. The number of variables which interact with trust is also greatly

increased by the variety of levels trust can be studied at (Tan & Tan, 2000). Additionally, the positioning of trust as a cause or effect is not a function of disciplinary differences, research can be found in diverse areas of the field modelling trust as an antecedent and an outcome (Rousseau et al., 1998).

### **3.5.1 Trust as an Antecedent**

It is as an independent variable that trust has garnered most of its initial interest and attention. The concept of trust has been predominantly of interest to academics and practitioners given its impact on individual, group and organisational level outcomes. The proximity of the specific trust referent has been established as a factor which determines the impact of trust on different outcomes. At different levels of analysis and with different referents, different consequences can be expected. For instance, trust in an immediate supervisor has a greater effect on performance, altruism and job satisfaction while trust in organisational leadership is a better predictor of organisational level outcomes such as organisational commitment (Dirks & Ferrin, 2002).

At a micro or individual level, trust has been proposed as a causal factor in predicting several important outcomes. The majority of research attention has focused on the predictive value of trust in performance situations and has shown that trust impacts a variety of performance measures. Research demonstrates the positive impact of trust in supervisors, managers, top management and organisational leadership on individual in-role and extra-role performance (Dirks & Ferrin, 2002; Mayer & Gavin, 2005). Employees with high trust levels exhibit stronger task performance, more organisational citizenship behaviours and less counterproductive behaviours (Colquitt et al., 2007). Meta-analysis shows that overall, the relationship

between interpersonal trust in managers and performance is small but significant and that the impact of trust in managers may be stronger for work attitudes and extra-role behaviours (Colquitt et al., 2007). It has been proposed that high levels of trust foster more risk-taking behaviour (Colquitt et al., 2007; Mayer et al., 1995) and creativity (Ford & Gioia, 2000; Madjar & Ortiz-Walters, 2009). High levels of trust amongst coworkers are related to knowledge creation at an individual level. For instance, team members who are more trusted by their coworkers are more successful in creating new knowledge, particularly when working on tasks which require a high level of interdependence (Chung & Jackson, 2011). Furthermore, interpersonal trust is thought to impact employee job attitudes and behaviours including job satisfaction (Dirks & Ferrin, 2002), career satisfaction (Han, 2010), and a negative effect on the use of impression management and deception to advance in a career (Crawshaw & Brodbeck, 2011).

Trust is also thought to be important in predicting meso or team level outcomes through promotion of cooperation (Kramer & Tyler, 1996). Cognitive and affective trust in teams has been shown to foster collaborative team cultures, and cognitive trust is also significantly related to team creativity (Barczak, Lassk, & Mulki, 2010). The relationship between trust and group performance appears to be more complex than the effects of trust on individual performance (Peters & Karren, 2009). Langfred (2004) suggests that high trust levels in teams are only associated with higher levels of performance when individual autonomy is low. Teams with high levels of trust are also less likely to monitor one another. In situations where individual team member autonomy is high and team members work independently, low levels of monitoring mean team members are less aware of each other's activities making coordination difficult and lowering performance (Langfred, 2004). In virtual



teams where face to face interaction is rare, trust is also associated with team productivity (Jarvenpaa et al., 1998) and the quality and timeliness of work (Crisp & Jarvenpaa, 2013). However, some research suggests that trust in virtual teams only raises team member perceptions of performance and not manager ratings (Peters & Karren, 2009).

Finally, trust has been studied as an antecedent of macro and organisational level consequences. Again, the main focus of this research has been the use of trust to predict organisational performance and competitive advantage. Across a variety of industries and countries, trust is found to be significantly correlated with measures such as organisational sales and profits (Davis et al., 2000), entrepreneurial performance of small to medium sized enterprises (Fink & Kessler, 2010), and negotiation processes and firm performance in inter-firm exchange relationships (Zaheer et al., 1998). Trust can also be used as a mechanism for reducing organisational withdrawal behaviours such as turnover (Brashear, Manolis, & Brooks, 2005), garnering organisational commitment and managing employee reactions to unfavourable organisational decisions such as redundancies (Brockner, Siegel, Daly, Tyler, & Martin, 1997).

Theorists have attempted to explain how trust impacts on such a wide variety of outcomes, and proposed possible processes through which trust generates positive consequences in the organisational context. Dirks & Ferrin (2001) describe two possible paths through which trust can be expected to produce outcomes; trust can impact outcomes directly through main effects or facilitate the effect of other variables by providing favourable conditions within the relationship or organisation. As a moderator, trust is proposed to elicit outcomes by affecting how an individual

assessing the past and future behaviour of the trustee (Dirks, 2006). While the dominant approach to studying trust has been to examine the direct effect of trust on outcomes, interesting results have also been discovered when the moderating effect of trust is explored. For example, trust in managers appears to moderate the relationship between prosocial motivation and the performance of fund raisers (Grant & Sumanth, 2009).

Other theorists have focused their efforts on explaining why trust creates positive outcomes. The most successful accounts have used the cognitive resource framework (e.g. Mayer & Gavin, 2005) and social exchange theory (e.g. Dirks, 2006). The cognitive resource theory was originally used to describe the interaction between a leader's resources and various consequences (Fiedler, 1986). Mayer and Gavin (2005) propose that this framework can be applied to explore why trust is important in organisations. Specifically, they posit that trust reduces worry and frees up cognitive resources so they can be devoted to increasing performance. Support for this account was demonstrated by Mayer and Gavin (2005). Trust in proximal referents has been shown to increase an individual's ability to focus, which in turn predicts extra-role performance such as organisational citizenship behaviour (Frazier et al., 2010). In a similar vein, affect-based trust in leaders has been posited as a contributing factor to team psychological safety which in turn impacts performance levels (Edmondson, 2004; Schaubroeck, Lam, & Peng, 2011).

Social exchange theory posits that social relationships involve the exchange of resources through interdependent interactions (Blau, 1964; Gouldner, 1960). This theory is commonly used to explain interaction in interpersonal relationships and several researchers have suggested that it is helpful in justifying why trust in an

organisational setting produces positive consequences. Blau (1964) argued that trust can be created by reciprocation of benefits received from another party or more gradually across multiple exchanges which start with low risk interactions and escalate as trustworthiness is demonstrated. The reciprocal nature of trust has been recognised in the literature. In any relationship the trusting actions of one party will motivate the other party to respond in kind, as such trust is exchanged between two parties in the relationship (Serva et al., 2005). Social exchange theory is also valuable in clarifying why positive relational and contextual factors might lead to the development of trust. If an individual perceives they have received or will receive in the future some benefit from their relationship with another individual or organisation, they may feel obligated to respond with trust (Brower, Lester, Korsgaard, & Dineen, 2009). The vast body of research which explores trust as an antecedent with a variety of positive consequences bolsters the position of trust as a central concept in understanding organisational relationships.

### **3.5.2 Predictors of Trust**

Once trust was established as a vital ingredient in organisational and interpersonal well-being and success, researchers focused their attention on exploring variables which precede trust to help organisations to nurture and maintain trust and benefit from its outcomes. If trust is so important in impacting positive outcomes at individual, team and organisational levels, what can organisations do to promote interpersonal trust? Although a range of antecedents have been proposed for trust, they can be broadly categorised into three groups. The existing research investigates trust as a dependent variable related to trustor characteristics, trustee characteristics and organisational context.

Alongside propensity to trust, other trustor characteristics have been considered important to the formation of trust. Research shows that a trustor's demographic characteristics may impact their trust levels with some trustors reporting higher trust for new team members that are similar to them (Spector & Jones, 2004). Additionally, an individual's commitment to change and recognition of the benefits of change enhances their vertical trust relationships such as trust in their supervisor (Neves & Caetano, 2006). In a theoretical paper, Ferrin et al. (2007) discuss the possibility that levels of cooperation and monitoring in a relationship can enhance or destroy trust levels. Excessive monitoring by the trustor is thought to undermine trust as it reduces risk and makes trust unnecessary, excessive monitoring also signals low trust expectations to the other party which are then reciprocated. In contrast, cooperation increases trust in a relationship through reciprocation and the influence of an individual's behaviour on their attitudes (Ferrin et al., 2007).

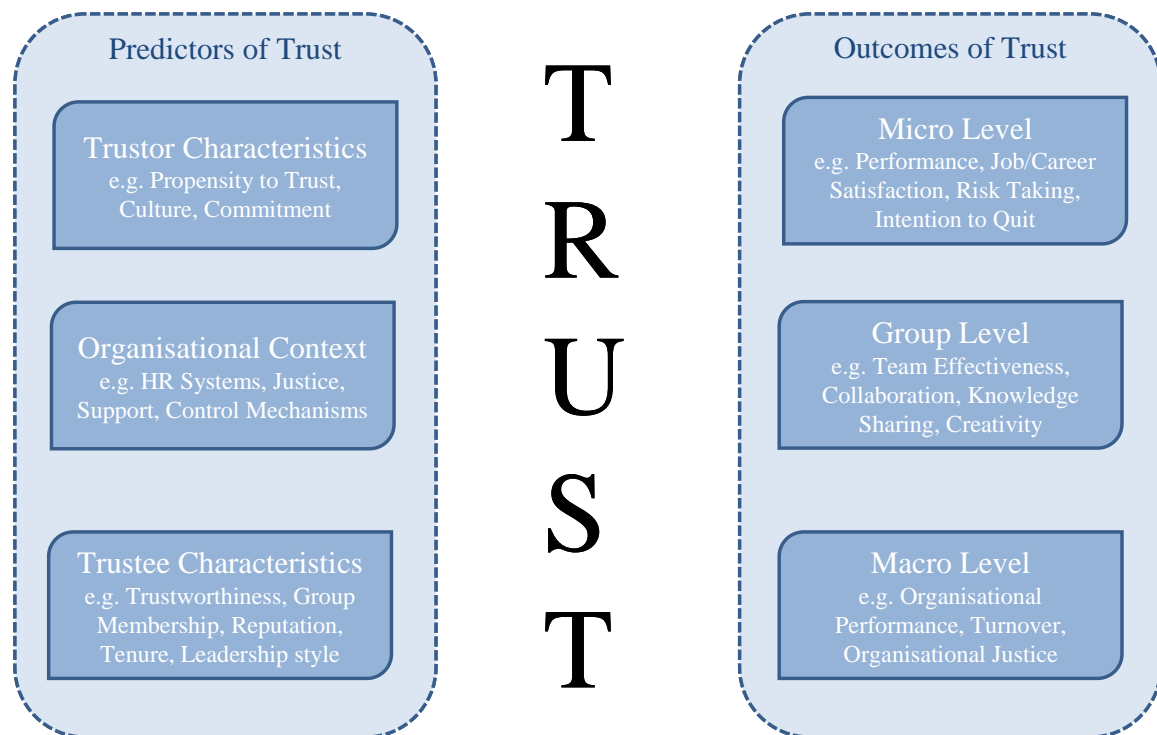
Research has also examined various characteristics of the trustee as antecedents to trust. The most common of these is trustworthiness as discussed earlier in this review; however several other trustee characteristics and behaviours appear to impact the generation of trust. Perceptions of the trustee's level of self control, both generally and in specific situations, influences perceptions of their trustworthiness and makes others more likely to trust them (Righetti & Finkenauer, 2011). Additionally, the length of time an employee has worked for a particular organisation can directly affect the level of trust an individual from another organisation reports in them (Perrone, Zaheer, & McEvily, 2003). It is possible that this information provides cues to the trustor regarding the trustee's ability to complete a particular task. For instance, an employee's position in an organisation can also affect trust development, trustors are more likely to trust and cooperate with others who are members of their own work

in-group (Loh, Smith, & Restubog, 2010). When the trust referent in question is a leader, additional trustee characteristics come into play. Two characteristics of a leader have repeatedly been linked with higher levels of trust in subordinates: transformational leadership and participative decision making (Jung & Avolio, 2000). Some researchers have argued that the effects of transformational leadership on performance are mediated by trust in the leader (Jung & Avolio, 2000). Recently, it has also been proposed that values-based leadership behaviours, such as high levels of transparency, open knowledge sharing and responsible morality are positively related to trust (i.e. authentic leadership, Walumbwa, Luthans, Avey, & Oke, 2011; servant leadership, Sendjaya & Pekerti, 2010; Schaubroeck et al., 2011). Gillespie and Mann (2004) report that 67% of the variance in individual levels of vertical trust can be explained by leader behaviours such as communicating a vision, sharing common values with subordinates and consulting team members during decision making.

Studies describing the influence of the organisational context on trust have uncovered some interesting relationships. Research conclusively demonstrates that organisational policy issues such as performance management systems (Mayer & Davis, 1999; Six & Sorge, 2008) and compensation and rewards (Ferrin & Dirks, 2003; Whitener, 1997) impact the development of trusting relationships within the organisation. Organisational cultures which emphasise the importance of informal employee interactions and relationships (Six & Sorge, 2008), and provide employees with high levels of perceived support (Neves & Caetano, 2006; Whitener, 2001) also facilitate higher levels of trust. In any organisation, third parties can be expected to affect the development of relationships. For instance, employees regularly share information or gossip about the actions and trustworthiness of their colleagues and it is common when working with a new individual to consult people who have worked

with them previously. Through this organisational gossip third parties can influence each other's trustworthiness perceptions and trust decisions (Burt & Knez, 1996). Perhaps the most commonly investigated situational antecedent to trust is organisational justice. Organisational justice refers to an individual's perception of the fairness of procedures, outcomes and treatment of employees within an organisation (Bies & Moag, 1986). Interest in the role of organisational justice in the development of trust stems from correlations reported between the two concepts (e.g. Konovsky & Pugh, 1994). It is proposed that justice perceptions impact trust through their influence on all three facets of trustworthiness (Frazier et al., 2010). The relationship between organisational justice and trust is stronger in less formal organisations where communication is open and adaptability is emphasised over rules or regulations (Ambrose & Schminke, 2003). The control mechanisms in organisations have a complex relationship with trust. There is a debate in the literature as to whether control and trust are inversely related or mutually reinforcing (Costa & Bijlsma-Frankema, 2007). The distinction appears to exist in the type of control, social controls, such as shared norms, are proposed to positively influence trust while formal controls such as strict rules undermine it (Das & Teng, 2001). This phenomenon has interesting implications for contractual relationships; contracts which are too detailed and constricting can weaken trust levels (Malhotra, 2009).

**Figure 3.3. A Broad Level Representation of the Predictors and Outcomes of Trust**



In summary, the breadth of the trust construct and the variety of fields in which it has been studied has led to an impressive array of correlating variables. Figure 3.3 provides a summary of a selection of key variables associated with trust. Some appear in different causal frameworks as both antecedents and consequences. This implies that trust may have multidirectional relationships with variables such as increased knowledge sharing (Dyer & Chu, 2003), perceptions of organisational justice (Brashear et al., 2005; Colquitt & Rodell, 2011; Frazier et al., 2010) cooperation and monitoring (Ferrin et al., 2007). It appears from this review that trust is central to the effective functioning of relationships and performance within an organisation. However, the wide array of variables linked to trust, and the absence of a unifying framework, reflects the fragmented nature of trust research thus far. This body of research adds relatively little to our understanding of *how* trust impacts behaviour as research has been correlational by nature. Furthermore, the research

discussed above considers high levels of trust as an almost exclusively positive influence in organisations. Researchers examining the more fine-grained dynamics of trust have questioned this assumption.

### **3.6 An Optimal Level of Trust**

Although trust is generally associated with positive outcomes, theory and empirical research reveal the probability that trust can also lead to negative consequences for the trustor. In an organisational context, researchers suggest that an optimal level of trust may allow an individual or organisation to gain the benefits related to trust while mitigating risk.

Optimal trust has been conceptualised as a point on a continuum from high trust to low trust, the point is not fixed but moves along the continuum depending on the individual and the context (Wicks, Berman, & Jones, 1999). Wicks et al. (1999) theorise that trust is optimal when trust and interdependence levels are matched. In optimal trust, the benefits of trust and distrust can be attained while the negative consequences of each are minimised (Erdem, 2003). Ng and Chua (2006) suggest that optimal trust functions differently for affect-based trust and cognition-based trust. Their study demonstrates that affect-based trust has a positive relationship with cooperation in social dilemma trust games, while the cognitive dimension shows a more complex relationship. Specifically, increases in cognitive-based trust beyond a certain level can reduce cooperation and increase social loafing (Ng & Chua, 2006). Moreover, theorists have suggested that trust may be used in an organisational setting to deliberately manipulate the behaviour of others (Skinner, Dietz, & Weibel, 2013). If an optimal level of trust exists, what are the consequences for individuals if the trust levels in their relationships fall elsewhere on the trust continuum? There is no doubt



that trust has a downside; aside from reducing the likelihood that the trustor will profit from the positive outcomes usually linked to trust, there are also negative consequences connected to unconditional, excessive or misplaced trust.

### **3.6.1 Excessive and Misplaced Trust**

The emphasis of the trust literature has been to focus on the benefits of trust and the majority of theorists and researchers take an optimistic view (Gargiulo & Ertug, 2006). Despite the lack of research attention, it is clear that trust has a downside making individuals less vigilant and so more vulnerable. This dark side of trust can lead to insufficient monitoring and situations of blind faith, complacency and an inability to detect a decline in performance, and the development of excessive obligations in an exchange relationship (Gargiulo & Ertug, 2006). Moreover, excessive trust in team situations may cause lower team performance (e.g. Langfred, 2004) or phenomena like group think where team members conform to team consensus and alternative ideas or decisions are not adequately considered (Erdem, 2003). Carson, Madhok, Varman and John (2003) propose that information processing abilities in an organisation assist in preventing misplaced trust in knowledge intensive inter-organisational relationships.

## **3.7 Chapter Summary**

In any organisational setting employees are required to interact and develop effective relationships with others. The literature reviewed in this chapter suggests that trust should be defined as a psychological state based on a willingness to be vulnerable (Rousseau et al., 1998) and an intention to engage in trusting behaviours with others (Gillespie, 2003). In choosing this conceptualisation, this study focuses

on trust as a decision that is based on multiple sources of evidence including perceptions of the other party. Choosing a definition has important implications for the operationalisation of trust in any research project (Dietz & Den Hartog, 2006). The discussion in this chapter demonstrates how the Gillespie (2003) conceptualisation of trust can be compared to previous perspectives and in doing so helps to position this research within the trust literature. Mayer et al.'s (1995) model of interpersonal trust development was also reviewed with a particular focus on how this theoretical framework has helped trust researchers to separate trust from its immediate antecedents. An examination of trust as a dependent and independent variable demonstrates the enormity of its influence and interaction with other organisational phenomena. However, this review also reveals the limitations associated with a field of literature which encompasses a variety of disciplinary perspectives and competing priorities. This breadth of focus in the literature may have undermined the possibility of a focused effort on uncovering the more nuanced processes underlying trust and its development in workplace relationships. Despite this, it is clear that at least some level of trust is desirable to ensure well-being and efficiency at multiple levels. Furthermore, the literature demonstrates that trust is dynamic, developing and changing within work relationships over time. The next chapter will consider the development of trust with a specific focus on trust development during organisational socialisation.

## **Chapter Four**

### **Trust Development**

## Trust Development

### 4.1 Introduction

Individuals are motivated to establish and maintain significant, positive and enduring interpersonal relationships in order to fulfil their need to belong (Reis, Collins, & Berscheid, 2000). Throughout their working lives, the vast majority of employees are also required to interact and cooperate with coworkers, customers and supervisors in order to achieve their personal goals and carry out their jobs. Ferris et al. (2009) argue that trust is the most critical feature underpinning all relationships, including those in an organisational context. The previous chapter explored the various definitions of trust and its relationship with other key organisational variables. While research suggests that trust is necessary in order to establish effective working relationships, it is less clear *how* trust can be developed and maintained between the trustor and the trustee (Werbel & Lopes-Henriques, 2009). This chapter will examine contemporary literature on the development of trust in interpersonal relationships, with a specific focus on the development of trust in the socialisation context. Hypotheses will be presented regarding the expected pattern of trust development expected in addition to the factors impacting trust development during organisational socialisation. Specifically, the first section of this chapter explores the current state of knowledge regarding trust development processes and presents a number of influential theories regarding the baseline of trust in new relationships along with the leading psychological models of trust development over time. Next the chapter will explore trust development during the socialisation period providing an overview of the processes underlying socialisation, the role of relationship development during socialisation, and presenting an argument for the expected pattern of trust development in this newcomer sample. The chapter will then examine the influence

of individual differences in newcomer trust development by focusing on the impact of trust propensity. Finally, this chapter discusses the role of trust cues in informing newcomer trust decisions over time, presenting hypotheses for a shift in the importance of particular trust cues.

## **4.2 Trust Development**

If trust is a psychological state, trust development describes the processes through which that state is reached and changes over time in a relationship (Weber, Malhotra, & Murnighan, 2004). Traditional models of trust development assume that change over time is gradual and influenced by the outcome of each interaction (e.g. Mayer et al., 1995). For many years, organisational researchers have recognised that trust breeds trust and that demonstrations of trusting behaviour from one party will encourage another party to behave similarly (e.g. Zand, 1972). Since the resurgence in the trust literature in the mid 1990s, theorists have begun to further elucidate the process of trust development within organisational relationships. In a review of interpersonal trust development models, Lewicki et al. (2006) discuss the attempts that have been made to conceptualise trust development and organize existing models into categories. According to their classification, approaches to trust development can be grouped as either behavioural, where trust develops purely through reciprocation, or psychological. From a behavioural perspective, trust develops gradually as a result of interactions where the other party behaves in a cooperative manner and declines rapidly once the other party breaches the norm of reciprocity (Lewicki et al., 2006). Within the psychological approaches, trust development is a function of repeated interaction between two parties which provides increased information and evidence to confirm or disconfirm trust expectations (Lewicki et al., 2006). This section will

begin with a discussion of baseline trust levels in working relationships before exploring psychological theories that explain how we can expect trust to change as a relationship matures.

#### **4.2.1 Baseline Levels of Trust**

Trust is a dynamic variable which develops and changes over time, but in any relationship trust must have a starting point. Theoretical discussion suggests a range of possibilities regarding the point at which we can expect trust to begin in new relationships, and research scholars are far from consensus on the baseline of trust in such situations. Previous research has investigated the nature of a baseline for trust and the processes through which initial trust is established. An understanding of initial trust formation is important as the early stages of a relationship are characterised by uncertainty yet often call for critical negotiation and coordination between parties (McKnight & Chervany, 2006). Furthermore, evidence from the areas of social cognition and perception suggests that mental models which are formed at the beginning of a relationship can be resistant to change in the future (e.g. Kelley & Stahelski, 1970). Research has also been stimulated by observations that gradual trust development is not always possible or practical.

One traditional view suggests a gradual evolution of trust levels based on incremental investments by each party (Axelrod, 1984) resulting in a reinforcing spiral of cooperative trust action (Zand, 1972). From this perspective, trust in a new relationship must begin at a low or zero baseline and can increase only when one party takes a risk and acts despite the potential for untrustworthy behaviour (Jones & George, 1998; Luhmann, 1979). The traditional approach has received some support from the empirical literature although mainly in experimental settings. This large

body of experimental research indicates that trust behaviour begins at a very low level and increases due to a series of escalating risks and reciprocative acts taken by both parties in a relationship (e.g. Axelrod, 1984). Indeed, recent qualitative research agrees that “you just can’t have trust over night” and that initial trust is characterised by defensive observation and calculations of risk (Savolainen & Ikonen, 2012, p.12). As experimental studies suffer from the limitations of a relatively artificial context and unique participant anxiety patterns regarding the novelty of the situation (Schmader, Johns, & Forbes, 2008), the existence of a zero baseline for trust is by no means universally accepted. Theories which assume zero or low levels of initial trust have failed to explain why individuals with no history of interaction frequently display and report high initial trust levels (McKnight et al., 1998). In fact the true baseline of trust in new relationships remains a disputed and under researched topic in the trust domain (Lewicki et al., 2006).

Additional research on initial trust was encouraged by changes to the typical organisational environment. Such changes include the increasing expectation of employees to accept changing roles and a high level of turnover amongst coworkers, which ultimately leads to increased interaction with new colleagues (McKnight et al., 1998). Alternatives to the zero baseline approach typically highlight the importance of temporal and contextual cues. McKnight et al. (1998) suggest that initial trust formation is an immediate process which is directly affected by the trustee’s propensity to trust. McKnight et al. (1998) sought to explain the seemingly contradictory results of other researchers by proposing a model of initial trust formation where trust can begin at any level. In this model, initial trust levels are proposed to be a composition of trusting beliefs (similar to trustworthiness) and trusting intention; trust is formed through the interaction of propensity to trust,

cognitive processes such as categorisation and illusions of control, and institution-based trust founded on beliefs about impersonal structures and security inherent in the context (McKnight et al., 1998). The role of social categorisation in trust formation is particularly important in the early stages as our initial perceptions and expectations of strangers are shaped by the stereotypes we hold about others. Categorising strangers as members of the in-group or out-group determines who an individual is likely to trust, strangers who are categorised as in-group members are perceived as more trustworthy and interactions with them are expected to carry less risk (Foddy, Platow, & Yamagishi, 2009). Even when unknown trust referents are not perceived as part of an in-group, their interaction or similarity with trusted, known targets can inspire more positive initial trust levels (Stewart, 2003). As such, the influence of the social context and reputations stemming from trusted third parties is recognised by McKnight and colleagues as an important feature in establishing initial trust levels. McKnight et al.'s (1998) conceptualisation of initial trust has attracted empirical investigation particularly in explaining trust development in socially distant relationships such as trust in virtual coworkers or vertical trust with managers the individual does not regularly interact with (McKnight & Chervany, 2006). Although this model is somewhat contrary to the traditional perspective, research appears to lend support. A higher baseline for trust in less established relationships has been demonstrated in studies examining trust in supervisors (Shamir & Lapidot, 2003) and in a virtual team setting (Jarvenpaa et al., 1998; Jarvenpaa & Leidner, 1999).

Additionally, McKnight and colleagues' (1998) model is in line with the work of Meyerson, Weick and Kramer (1996) on swift trust. Swift trust refers to trust which develops quickly in relationships or teams where individuals are required to cooperate immediately in vulnerable situations based on impersonal observations of



the roles their colleagues occupy (Meyerson et al., 1996). The notion of swift trust was put forward by Meyerson et al. (1996) who argued that interaction in situations where trust has not had time to form is enabled by a particular type of trust which develops prior to any shared experience or interaction. Swift trust describes a high initial level of trust based on depersonalised perceptions about the trust referent's characteristics rather than knowledge about their behaviours. Meyerson et al. (1996; Meyerson, Weick, & Kramer, 2006) acknowledge that some situations which require trust and immediate cooperation are temporary and do not allow for the gradual development of trust. The swift trust concept has been useful in examining situations where trust must be formed in a very short time frame (e.g. disaster relief situations, Tatham & Kovacs, 2010). According to swift trust theory, interpersonal trust is more likely to develop rapidly if the temporary group or network is small, if expectations are based on consistent role behaviours rather than individual characteristics, and if interdependence levels are moderate (Meyerson et al., 2006). Meyerson et al. (2006) also posit that during swift trust formation time pressure will increase reliance on social perception heuristics allowing for a rapid reduction of uncertainty; however these shortcuts can lead to greater risk of inaccuracy and misplaced trust. Time-lagged empirical research of swift trust in virtual teams suggests that early trusting beliefs have a significant impact on the formation of behavioural norms in a team (Crisp & Jarvenpaa, 2013). Furthermore, recent conceptual work (Blomqvist & Cook, 2012) proposes that high levels of initial trust develop through cognitive and affective channels. Blomqvist and Cook (2012) argue that this model is particularly relevant in contexts where individuals' skills and capabilities to perform in the organisational environment are still emerging and when coworkers expect to interact over a medium to longer term time frame.

#### **4.2.2 Psychological Approaches to Trust Development**

Lewicki et al. (2006) classify the psychological process of trust development into three categories; those which view trust as a unidimensional, two-dimensional or transformational concept. Unidimensional models of trust view trust as a bipolar concept, whereby low trust is conceptually indistinguishable from distrust. In Mayer et al.'s (1995) model of organisational trust, the development of trust over time is represented by a feedback loop. The outcome of each trusting action in a risky situation feeds back to influence trustor perceptions of the trustee. In essence, trustworthiness is proposed as a mediator between interaction outcome and trust levels for the next interaction with that party, and change in trust is driven by changes to the perceived trustworthiness of the other party. Although this model is largely cognitive, other unidimensional models have more explicitly included affective components in the trust development process.

The proposal that trust has an emotional base in addition to a cognitive one was first presented by Lewis and Weigert (1985). They outlined an emotional dimension of trust which exists in the bond between individuals in a close interpersonal relationship and contributes to the cognitive base from which trust is determined. McAllister (1995) further developed this proposition and established an argument for affective trust to be considered as a foundation for trust independent of any contribution to, or influence from, cognitive trust. Empirical evidence has supported this distinction as affective trust and cognitive trust have been shown to interact differently with a variety of variables (e.g. Wang, Tomlinson, & Noe, 2010). In McAllister's (1995) model, changes in levels of affect-based trust are related to the frequency and positivity of interactions although predictors of cognitive trust are less

clear. The development of trust over time is not examined by McAllister (1995) in detail, although it is suggested that cognition-based trust may precede affective trust. Jones and George (1998) more explicitly discuss the evolution of trust over time and posit that trust development is determined by a history of interaction and mutual sharing of emotion and thoughts. In line with the unidimensional perspective, their conceptualisation of trust entails a continuum from distrust to unconditional trust. Unconditional trust describes a state where shared values facilitate stronger relationships and mutual identification (Jones & George, 1998). Conditional trust, which falls near the centre of the continuum, is more common where interactions are supported by positive expectations of the trustee's behaviour. An important feature of the Jones and George (1998) model is the incorporation of moods and emotions as a fundamental aspect of and influence on trust.

The most prominent discussion of trust as a two-dimensional concept was proposed by Lewicki et al. (1998). This model is classified as two-dimensional as it conceptualises trust and distrust as two separate, orthogonal dimensions. The development of trust and distrust proceeds along two lines, changing in breadth and depth over time. Breadth is used by Lewicki et al. (1998) to describe the number of domains or situations in which trust or distrust exist in a relationship. Breadth is proposed to develop through experiences and interaction with the focal individual or group in multiple contexts. Relationships also differ in the depth or richness of trust and distrust levels; deep relationships are characterised by highly specific and differentiated trust and distrust judgements in each context (Lewicki et al., 1998). This model presents a nuanced view of workplace relationships which provides researchers with an increased level of complexity for studying trust and distrust in organisations. However, this perspective has attracted relatively little research

attention and a measure of trust and distrust as orthogonal concepts has not yet been validated in the literature.

Transformational models are classified as those which propose that trust itself consists of a number of different forms and that change occurs as the relationship moves from one form of trust to another (Lewicki et al., 2006). Rousseau et al. (1998) describes three stages of change in a trust relationship: a building phase where trust first emerges, a phase of stability, followed by a stage of dissolution or trust decline. Their model of trust development over time portrays trust as changing in form from calculative to relational. According to the model, relational trust is a resilient form of trust that is built on previous interactions. Rousseau et al. (1998) suggest that relational trust and calculus-based trust can coexist within a relationship but that they are inversely related: as the relationship develops over time, relational trust increases while reliance on calculus-based trust decreases. Relational trust is thought to be particularly important for informal, affective and reciprocal exchange between coworkers (Lau & Cobb, 2010).

The transformational category also encompasses perhaps the most in-depth theoretical examination of trust development, which was proposed by Lewicki and Bunker (1996; see Figure 4.1). Drawing on the work of Shapiro, Sheppard and Cheraskin (1992), they modelled trust as developing over time through stages characterised by different types or bases of trust. First, calculus-based trust refers to trust which is based on a fear of the consequences of not behaving in a trusting manner. This type of trust has also been described as deterrence-based trust (Shapiro et al., 1992), however Lewicki and Bunker (1996) argue that calculus-based trust is a more appropriate term as both punishment and rewards are important outcomes. This

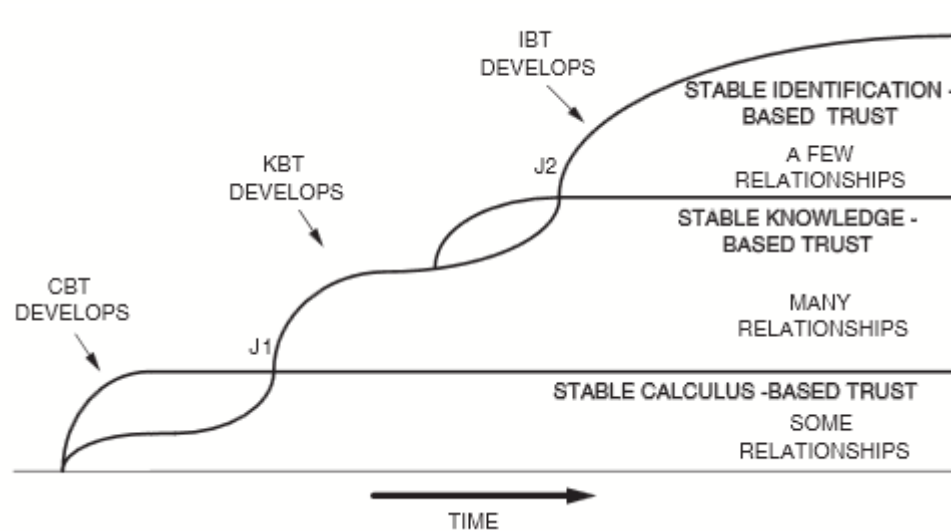
form of trust can be rewarded by the benefits of maintaining the trusting relationship and violations are deterred by the probability of punishment through reputation damage (Lewicki & Bunker, 1996). The consideration of the benefits of calculus-based trust as well as its potential vulnerability is in line with views of trust as a cooperative behaviour (Lewicki et al., 2006). Calculus-based trust is fragile, it is based on rational choices and monitoring of the other parties behaviour, and can be characterised by a trust but verify attitude (Rousseau et al., 1998).

The second form of trust discussed by Lewicki and Bunker (1996) is knowledge-based trust. This type of trust originates from the predictability of the trustee's behaviour established through information from past interactions. Shapiro et al. (1992) note that regular communication between parties, and courtship or relationship developing behaviours are critical to building knowledge-based trust. Knowledge-based trust involves an understanding of the other party's preferences and their likely responses (Lewicki et al., 2006). The third form of trust, identification-based trust is predicated on mutual understanding, identification with the other party's desires and a belief that the trustee will fully protect the trustor's interests (Lewicki & Bunker, 1996). Again, Shapiro et al. (1992) discuss factors which support identification-based trust; these include commitment to shared values, co-location, creation of joint goals or products and establishing a sense of collective identity. Lewicki and Bunker (1996) explain that while many relationships develop over time from calculus-based trust to knowledge-based trust, very few relationships reach the point of identification-based trust which involves both affective and cognitive elements.

### Figure 4.1. Lewicki and Bunker's Stages of Trust Development.

Source: Lewicki, Tomlinson and Gillespie (2006).

J1 - shift from calculus to knowledge-based trust. J2 - shift from knowledge to identification-based trust.



Lewicki and Bunker (1996) propose that as the trustor and trustee build up a history of varied interactions, trust levels in the relationship change to reflect this new information. Affirmation of trust expectations across time will initiate a gradual progression from calculus-based trust at the beginning of a relationship, to knowledge-based trust and occasionally as far as identification-based trust (Lewicki & Bunker, 1996). However, the notion that affective trust is less salient in all but a few close relationships, and the portrayal of both parties as passive, reacting and developing trust only when certain criteria have been met, has caused some theorists to question the comprehensiveness of the model (e.g. Child & Möllering, 2003). Indeed, longitudinal empirical research has reported inconsistent findings. Research conducted in teams in a university setting shows trust as differentiating into two components, cognitive and affective, only after eight weeks of collaboration (Webber, 2008). However, a longitudinal study conducted with another student sample indicates that affective and cognitive trust do not develop in different stages but that affect exerts an essential impact at all levels of trust (Wilson, Straus, & McEvily,

2006). Affective trust foundations, such as identification with the trustee, have more recently been proposed as a component of trust from the very formation of workplace relationships (Kramer & Lewicki, 2010). Additionally, studies of simulated negotiations suggest that affective trust can develop in advance of the establishment of cognitive trust (Olekalns & Smith, 2005). Furthermore, the conceptualisation of trust as changing in form or type is an issue of key debate in recent trust literature (Bachmann, 2011; Dietz, 2011). Lewicki and Bunker's (1996) model suggests a change in the form of trust as a relationship develops. However, Dietz (2011) argues that a single type of trust exists although the evidence on which trust decisions are based may vary depending on the situation. In line with Dietz (2011), the definition of trust accepted in this research portrays trust as a uniform decision based on a number of potential information sources.

Research examining trust in the workplace has been criticised for its failure to empirically test theoretical propositions (Tomlinson et al., 2004, p.166). This is particularly true in the case of trust development. One issue underlying the dearth of research into trust development is the lack of validated measures to assess trust and distrust or calculative, knowledge-based and identification-based trust as distinct concepts (Lewicki et al., 2006). Furthermore, the term development suggests a dynamic process which is likely to change over time. Indeed many of the trust development theories discussed above explicitly model changes in trust levels or form over time and across a history of interactions. However, there is a significant lack of longitudinal empirical research investigating these changes. Studying change in a variable requires the repeated measure of that concept over an appropriate period of time (Ployhart & Vandenberg, 2010). This longitudinal design allows researchers to investigate the actual shape of trust development and to test the propositions of

models which posit a change in the basis or form of trust as a relationship matures. The scarcity of longitudinal trust studies is a major research problem because cross-sectional studies offer limited scope for insight and prescriptive advice for furthering the development of theory, or for practitioners working the context under examination (Ployhart & Ward, 2011).

It is evident from existing trust theory that trust is likely to be situation and context specific. The study of trust across different contexts provides support for the proposition that the antecedents of trust may differ across contexts (Colquitt et al., 2011). For trust models to be of practical use in organisations it appears that trust researchers need to develop a more nuanced understanding of trust over time and across contexts. Accordingly, the importance of studying trust development in the context of key organisational events or transitions is central to advancing our understanding of this dynamic process. This research examines trust development during organisational socialisation, a period of time in an individual's working life that is uniquely suited to the study of trust development as it is possible to track trust levels from relationship initiation to a stage of relative relationship maturity.

#### **4.3 Trust Development During Socialisation**

*Socialisation* is the process through which individuals adapt to a new role or job in an organisation (Chao et al., 1994). When individuals join a new organisation, they strive to reduce feelings of uncertainty by familiarising themselves with their new task and social environment (Simosi, 2010). Existing research demonstrates that the initial socialisation of newcomers lasts approximately two to three months (Chen, 2005) during which time employees adapt to their new positions, are integrated into the organisation and build relationships with their colleagues (Chan & Schmitt, 2000).



While the traditional organisational socialisation literature has focused on socialisation stages and the role or tactics of the organisation, since the 1980's there has been an increase in research approaching socialisation with a newcomer focused perspective (Cooper-Thomas & Anderson, 2006). The role of the newcomer as an active participant in socialisation and behaviours such as information seeking (Ashford & Cummings, 1983), learning (Ashforth, Sluss, & Saks, 2007) and relationship building (Wanberg & Kammeyer-Mueller, 2000) has received increased scholarly interest and inquiry. A similar thread is currently developing in the trust literature with researchers beginning to investigate the actions that trustors and trustees can take to actively build trusting relationships in the workplace (e.g. Child & Möllering, 2003; Williams, 2007). In attempting to comprehend how trust is likely to develop during socialisation, it is important first to examine the psychological processes underlying socialisation itself and in particular the role of relationships in socialisation.

#### **4.3.1 Processes Underlying Socialisation**

As integration into any social group is thought to rely on the creation of a situational identity, the development of a newcomer's identification with their organisation or work group is central to the process of socialisation (Livingstone, Haslam, Postmes, & Jetten, 2011; Postmes, Haslam, & Swaab, 2005). Social identity theory (Tajfel & Turner, 1979) describes how individuals interpret behaviour in a social context by categorising themselves and others into categories according to group membership. Tajfel (1972, p. 292) explains social identity as "the individual's knowledge that he belongs to certain social groups together with some emotional and value significance to him of this group membership". Social identity theory posits

that an individual's identity has a core of personal attributes supplemented by social classification and group characteristics (Ashforth & Mael, 1989). Social-categorisation theory (Turner, 1985) expands on this and suggests that through the formation of social identities, individuals depersonalize their perception of themselves and others, and view individuals as representatives of an in-group or out-group. The categorisation of individuals provides order to the complex social environment and a method of self and other definition in relation to the group (Ashforth & Mael, 1989). Social identity theorists argue that the tendency of individuals to develop a strong sense of shared identity in a work group is driven by their need to enhance self-esteem by associating themselves with a positive social category (Ashforth & Mael, 1989) and their desire for certainty in their environment (Hogg, 2000).

Uncertainty reduction theory (Berger & Calabrese, 1975; Falcione & Wilson, 1988) is one of the most influential theories explaining newcomer behaviour in the socialisation literature (Saks & Ashforth, 1997b). The experience of joining a new organisation or workgroup has been described as a transition "from a state of certainty to uncertainty, from knowing to not knowing, from the familiar to the unfamiliar" (Van Maanen, 1977, p.16). The use of categories and stereotypes derived from group identification allows newcomers to reduce the amount of information that they need to process when interacting with others in the workplace and reduces feelings of uncertainty in predicting the behaviour of in-group members (Korte, 2007). Newcomer experiences of uncertainty derive from their lack of familiarity with their workplace environment, new work tasks and the norms and values of their new colleagues. Individuals are motivated to pursue certainty in social environments which are important to them as it provides a sense of control (Hogg, 2000). The lack of certainty in a work environment results in a situation where individuals have

difficulty in determining appropriate behaviour and what to expect from their social interactions. In situations where uncertainty is high, individuals are motivated to develop cohesive workgroups with high levels of identification (Hogg & Terry, 2000). Longitudinal empirical research with a student sample of new joiners suggests that high levels of uncertainty predict stronger levels of group identification (Hogg, 2000).

In situations with high levels of uncertainty, individual need for relationships with similar others is substantially increased (Nooteboom, 2003). According to social identity theory, newcomers strive to define their new environment and their own identity within that environment by interacting with colleagues and the organisation (Ashforth & Mael, 1989). Ashforth and Mael (1989) propose that, through a series of interactions, newcomers develop a schema for the organisation to guide their behaviour and a social identity through which the individual starts to internalise the values of their new social categories. Each newcomer's social identity is shaped during socialisation by the behaviours and norms that are prescribed or discouraged in their new social environment (Ashforth & Mael, 1989). The social cognitive theory perspective (Bandura, 1977; 1986) supports this position suggesting that newcomers are socialised into their organisation through the observation of other employees' successful work behaviours. The socialisation process is proposed to facilitate a social learning process by providing an opportunity for newcomers to interact with other individuals in the workplace (Gibson, 2004). In general, there is a consensus in the literature that the relationships that newcomers form play a critical role in their socialisation into the organisation.

#### **4.3.2 Socialisation and Relationships**

The importance of developing effective working relationships with colleagues has been a key theme in socialisation research, and is thought to be particularly critical when individuals are joining a new organisation (Chao et al., 1994). Periods of organisational transition, such as a change in organisation or role, evoke anxiety and uncertainty for employees (Van Maanen & Schein, 1979). Desire for control and certainty drives newcomers to actively seek out positive social interactions at work (Ashford & Black, 1996). Newcomer relationship building is an important predictor of outcomes including job satisfaction (Ashford & Black, 1996), social integration, role clarity and turnover intentions (Wanberg & Kammeyer-Mueller, 2000). During socialisation, relationship building is influenced predominantly by frequent interaction with colleagues as opposed to the formal socialisation tactics employed by an organisation (Cooper-Thomas & Anderson, 2006). Indeed the opportunity for and quality of coworker interactions is vital to a positive socialisation experience (Wanberg & Kammeyer-Mueller, 2000). Positive social interactions with coworkers are thought to act as a buffer against negative emotions and can promote successful newcomer adjustment in these situations (Taormina, 1997). The psychological contract literature has also highlighted the importance of this period of socialisation in informing new recruits' perceptions of what they can expect from their organisation and their colleagues (Rousseau, 2001). As newcomers build a more detailed, accurate schema of their organisation, the extent to which they have built trusting relationships with coworkers is an indicator of their progress through the socialisation process (Feldman, 1976).

### **4.3.3 Newcomer Trust Development**

The prevailing initial trust theories discussed earlier in this chapter (McKnight et al., 1998; Meyerson et al., 1996) suggest that newcomer trust will not have a zero baseline. Furthermore, the socialisation literature suggests that early newcomer perceptions develop rapidly (Saks & Ashforth, 1997b) and are strong predictors of attitudes and outcomes later in the socialisation process (Bauer & Green, 1994). In the socialisation context, organisations strive to provide new joiners with a positive socialisation experience and offer a positive forum for newcomers to interact and share activities, thus encouraging trusting behaviours and the development of stronger relationships (Homans, 1950). If trust begins at a non-zero baseline, perception and interpretation of subsequent coworker actions should be biased by a need to confirm existing beliefs or attitudes (Fiske & Taylor, 1984). McKnight et al. (1998) agree, stating that initial trust levels can be relatively resilient to change depending on the strength of the antecedents on which they are based. It is expected that the positive experience of a trusting relationship with coworkers will motivate employees to interact in their new organisational environment with the intention of building social resources which will reinforce levels of trust in colleagues (Fredrickson, 1998; 2001). As individuals perceive themselves engaging in trust behaviours, their positive expectations of coworkers will be strengthened (Bem, 1972), and their trust levels will increase in a self-reinforcing spiral. As previously discussed, development of trust in a relationship is often proposed to be dependent on trustor experiences during a history of interactions with the trustee. For instance, Zucker (1986) suggests that repeated personal exchanges between individuals allow process-based trust to develop. Similarly, it has been proposed that trust relationships develop as a result of interaction frequency and duration (Lewicki & Bunker, 1996) and that outcomes

experienced from trust interactions feedback to inform perceptions of trustworthiness in the future (Mayer et al., 1995). Therefore, theoretically it can be expected that trust development during socialisation should develop in an upward trajectory.

At a coworker level, longitudinal field research has tended thus far to employ a time-lagged design (e.g. Colquitt et al., 2011) rather than a truly longitudinal repeated measure of variables across time periods. Previous longitudinal research investigating trust has focused predominantly on trust at a team level. Reciprocal trust between teams has been demonstrated as a longitudinal process where team trust is continually revised based on up to date trustworthiness perceptions following interaction between the teams (Serva et al., 2005). Further empirical evidence from team research also suggests that trust tends to increase over repeated interactions (Wilson et al., 2006), grows more complex and multidimensional as relationships develop (Webber, 2008), and that early trusting beliefs have a significant impact on beliefs two months later (Crisp & Jarvenpaa, 2013). In general, team level results are in line with the proposition that the mechanism through which trust develops is repeated positive interaction over time. During newcomers' first months in an organisation, continued exposure to the common learning experiences and positive social support typical of institutionalised socialisation gradually decreases their uncertainty in predicting the behaviour of their colleagues and increases feelings of social comfort (Kim, Cable, & Kim, 2005). This social environment provides the ideal forum for coworkers to engage in positive interaction. Therefore, it is hypothesised:

*Hypothesis 1. Intention to engage in trust behaviours, reliance and disclosure, increases over time.*

#### **4.3.4 Individual Differences in Newcomer Trust Development**

Research has demonstrated that there are individual differences in relationship building behaviour during socialisation (Wanberg & Kammeyer-Mueller, 2000). In addition to improving our understanding of general patterns of trust development between new colleagues, insight into the individual differences that exist in how trust behaviours develop is vital to achieving a more nuanced picture of relationship processes. Trust has often been conceptualised by psychologists as a dispositional characteristic or personality trait of the trustor which is not specific to any referent or context. While this approach has been challenged in recent years, Mayer et al.'s (1995) positioning of propensity to trust as a separate but influential variable in trust decisions has revived the popularity of the construct. They define propensity to trust as a "general willingness to trust others" and suggest that propensity to trust may provide trustors with the ability to make a leap of faith (1995, p.715). An individual's propensity to trust provides them with a generalised positive expectation about the reliability of others (Rotter, 1971). This generalised expectation has been proposed to act as a filter through which the actions of other people are interpreted (Govier, 1994).

Colquitt et al. (2007) reported the correlation between propensity to trust and trust as significant but small, indicating that the relationship may be context dependent. For example, it has been suggested that propensity to trust is more critical to trust formation in ambiguous situations (Gill, Boies, Finegan, & McNally, 2005), and those which lack personal trust cues (Grant & Sumanth, 2009). Furthermore, as communication frequency in a dyad increases, propensity to trust becomes less important (Becerra & Gupta, 2003). Accordingly, propensity to trust can be considered more central to the formation of trust if the trustor does not have sufficient

information about the situation or trustee to form an accurate expectation or belief. This makes propensity to trust uniquely relevant to new trust relationships and in particular to new joiners in a socialisation context. Previous research has tended to employ laboratory or time-lagged cross-sectional designs making it impossible to track the impact of propensity to trust over time within a relationship. Recent experimental research using a student sample offers tentative support for a relationship between trust propensity and initial trust levels, particularly in unfamiliar situations (Johansen, Selart, & Gronhaug, 2013). It is expected that in a socialisation context, where no preceding relationship history exists between newcomers, propensity to trust will impact initial trust levels because little information is available to the trustor about coworker traits or behaviour. As this new information becomes available to the new recruits, propensity to trust should decrease in significance as a trust source. Accordingly, it is hypothesised:

*Hypothesis 2. Propensity to trust is significantly related to initial intentions to engage in trust behaviours (reliance and disclosure).*

#### **4.3.5 Cues for Newcomer Trust Development**

As discussed previously, trust in this study is conceptualised as a decision or intention to engage in trust behaviour that is based on multiple sources of evidence. A central question in trust research concerns which personal, relational or situational factors combine to allow trustors to make a decision to engage in trusting behaviour. Recent debate about the relative importance of particular trust cues (e.g. Bachmann, 2011; Dietz, 2011) echoes previous calls (Schoorman et al., 2007) for researchers to establish the time frame in which particular predictors of trust exert their influence. A wide array of micro and macro cues have been proposed as antecedents to trust. For



instance, the importance of the three factor model of trustworthiness discussed in the previous chapter (competence, benevolence and integrity; Mayer et al., 1995) is widely accepted, as is the importance of repeated positive interactions over time (Lewicki & Bunker, 1996). While this information is likely to play a role in trust development during socialisation, other trust cues may be more specific to the context of new work relationships.

In their discussion of the formation of swift trust, Meyerson et al. (1996) highlight the importance of the reputation associated with occupational roles as an important cue when interacting with unknown trustees. Social identity theories of socialisation suggest that newcomers form a stereotype of prototypical group members which guide their expectations for the behaviour of individuals who can be associated with that prototype (Hogg, 2000). Recent theoretical work has supported the notion that groups (e.g. members of a particular occupation) can carry certain trust related attributes such as benevolence and competence as part of their stereotype, impacting the way that strangers feel and act towards members of that group (Cuddy, Glick, & Beninger, 2011). Trust predicated on the role occupied by the trustee is based on perception of the barriers to obtaining that role, the adequacy of the education and training needed to fulfil that role, and the social mechanisms which govern adherence to role typical behaviour (Kramer & Lewicki, 2010). Empirically, this role-based trust has been shown to be related to individual trust in supervisor at the early stages of a relationship (Shamir & Lapidot, 2003).

In addition, McKnight et al. (1998) argue that the initial formation of trusting beliefs is informed by cognitive and institutional cues including the categorisation of the other party and perception of safeguards inherent in organisational structures. The

construct of rule-based trust refers to an employee's sense that the organisational system supports trust between coworkers through the empowerment of trust behaviours and the constraint of untrustworthy acts (Möllering, 2012). The simultaneous empowerment and constraint of behaviour is facilitated by the existence of injunctive norms that signal to newcomers the behaviour expected of good employees, and descriptive norms which communicate the typical behaviour in a specific organisational context (Kramer & Lewicki, 2010). McAllister (1995) agrees that membership of an organisation provides boundaries for a working relationship and a degree of certainty which is likely to increase trust in peers. The effect of this perception may be even more salient when organisational membership is shared, therefore fostering perceptions of similarity between coworkers (Zucker, 1986).

Throughout socialisation, individuals form a social identity which defines themselves and coworkers as members of an in-group or out-group (Ashforth & Mael, 1989) in a process of depersonalisation (Turner, 1985). As newcomers develop a shared sense of identity, they form normative schema to guide their perception of the behaviour and values of other in-group members (Livingstone et al., 2011). Brewer (1996) argues that this depersonalisation provides a basis for depersonalised trust in in-group members which negates the need for personal knowledge in assessing the risk of initial interactions. In line with this, it has been proposed that feelings of identification play a key role in initial trust building (Blomqvist & Cook, 2012; Foddy et al., 2009; Williams, 2001).

This overview of the literature reveals a variety of trust cues which are available to an individual as they make a trust judgement. As Kramer and Lewicki (2010, p.257) note, "when it comes to deciding who to trust and why, individuals can

be viewed as vigilant social perceivers who are attentive to a variety of personal, social and situational factors”. However, it may not be possible for trustors to absorb all of the available information and trust cues. Using the principle of bounded rationality, Bijlsma-Frankema and Koopman (2003) argue that the entire array of complex antecedents of trust is unlikely to be considered by every trustor in every trust decision. Indeed, it is more probable given realistic information processing capabilities and time constraints, that individuals choose to attend to a finite number of cues at any one time. Unfortunately, little empirical research exists to provide insight into the relative importance of different trust cues. In fact, much of the trust literature has failed to separate common trust antecedents from trust decisions, using cues such as trustworthiness as a proxy for measuring trust in relationships (Gillespie, 2012; Kramer, 2006).

One theoretical perspective which offers insight into when certain cues might be important was put forward by Kramer and Lewicki (2010). Drawing on previous work, they propose the concept of presumptive trust which describes positive expectations of others founded upon factors such as perception of the rules embedded in a shared organisational environment, perceptions of the other’s role and identification with the trustee. This form of trust is thought to be important when the trustor has little information about a trustee. In the context of socialisation, presumptive trust cues are likely to be important early in a new recruit’s relationships with their coworkers. Chen and Klimoski (2003) describe the first few days of socialisation as an anticipatory phase where the expectations of coworkers are formed quickly based on anticipated behaviour. At this stage, an individual has access to information about the job title and organisational membership of their colleague but little evidence about any personal characteristics on which they could base a trust

decision. In light of the lack of personal information, cooperative behaviour relies on the presumption of trust (Kramer & Lewicki, 2010), freeing up cognitive resources to allow the new recruit to perform effectively in their new environment (Mayer & Gavin, 2005). In essence, presumptive trust during socialisation draws on newcomer stereotypes of their new organisation and the delineation of roles and groups within it. The social categorisation processes underlying socialisation suggest that the desire to reduce uncertainty in the new work environment should drive the use of stereotypes to guide initial interactions and allow for the rapid building of coworker relationships.

This research draws on the theoretical work of Kramer and Lewicki (2010) and Mayer et al. (1995) to distinguish between presumptive trust cues and personal trust cues. *Presumptive trust cues* refer to social and environmental information, including role-based trust, rule-based trust and identification. *Personal trust cues* refer to those attributes of the trustee described by the trustworthiness dimensions of competence, benevolence and integrity. As a relationship develops and more personal trust cues are available, reliance on presumptive trust is thought to diminish. McKnight and Chervany (2005, p.29) suggest that the initial trust phase ends once “parties gain verifiable information by first-hand interactional or transactional experience”. Dietz et al. (2010) agree that information from exchanges with the trustee becomes more important as a basis of trust over time while reliance on presumptive cues wanes. In this way, presumptive trust cues should function in a similar manner to trustor dispositional factors such as propensity to trust, important at the start but with a diminishing impact over time. This framework of trust cues contrasts with aspects of Mayer et al.’s (1995) initial discussion of the impact of personal trust cues over time. Mayer et al. (1995) posit that integrity will be an important trust cue from the early stages of a new relationship. They suggest that

perceptions of integrity will be based on observation and third party information before direct interaction takes place. However in this socialisation context, it is expected that coworkers will be plunged straight into direct interaction with their colleagues, with little time for observation or gathering of third party information. Furthermore, it is expected that the new organisational environment will be rich in impersonal trust cue information from which newcomers can base their expectations of the risks inherent in trusting behaviour. On the other hand, in line with Mayer et al. (1995), this distinction recognises that the impact of benevolence perceptions will increase over time as more personal information about coworkers becomes available to the newcomer.

What is less clear from the literature is how does the shift from presumptive to personal cues take place and when. Although evidence from longitudinal trust research is limited, it has been demonstrated that initial trust is predicted by unique antecedents to those that impact more mature relationships (Jarvenpaa et al., 1998; Webber, 2008). This study proposes that as newcomers are socialised into their new organisation and as they gain access to more personal information and insights about their coworkers, their willingness to engage in trusting behaviour will be based increasingly on personal rather than presumptive trust cues. Therefore, formally stated it is predicted that:

*Hypothesis 3a. Presumptive trust cues (identification, role-based trust and rule-based trust) are positively related to initial trust in coworkers. Over time the significance of this effect will decrease.*

*Hypothesis 3b. Personal trust cues (competence, benevolence and integrity) show a smaller relationship with initial trust in coworkers. Over time the significance of this effect will increase.*

Hypothesis 3a and 3b propose a shift in the basis of trust intentions over time. Figure 4.2 represents the pattern of influence predicted by these hypotheses by demonstrating the time points at which each trust cue is expected to have a significant relationship with reliance and disclosure intentions.

**Figure 4.2. The Expected Shift from Presumptive to Personal Trust Cues**

Trust Cue		Time 1	Time 2	Time 3	Time 4
Presumptive	Group identification	√	√	X	X
	Role-based trust	√	√	X	X
	Rule-based trust	√	√	X	X
Personal	Competence	X	√	√	√
	Benevolence	X	√	√	√
	Integrity	X	√	√	√

#### 4.4 Chapter Summary

This chapter discussed the theoretical basis for the research and presented an argument for a set of hypotheses surrounding the development of trust in the socialisation context. The chapter began with an overview of the current trust development theory including initial trust theory and models which explore changes in trust over time. Trust development processes were then contextualised within the socialisation period and the factors driving trust decisions during socialisation were explored. Based on the literature four hypotheses were put forward regarding the shape of trust development and the factors influencing trust intentions in this sample.

In the forthcoming chapter the methodology employed to test these hypotheses will be presented.

## **Chapter Five**

### **Research Methodology**

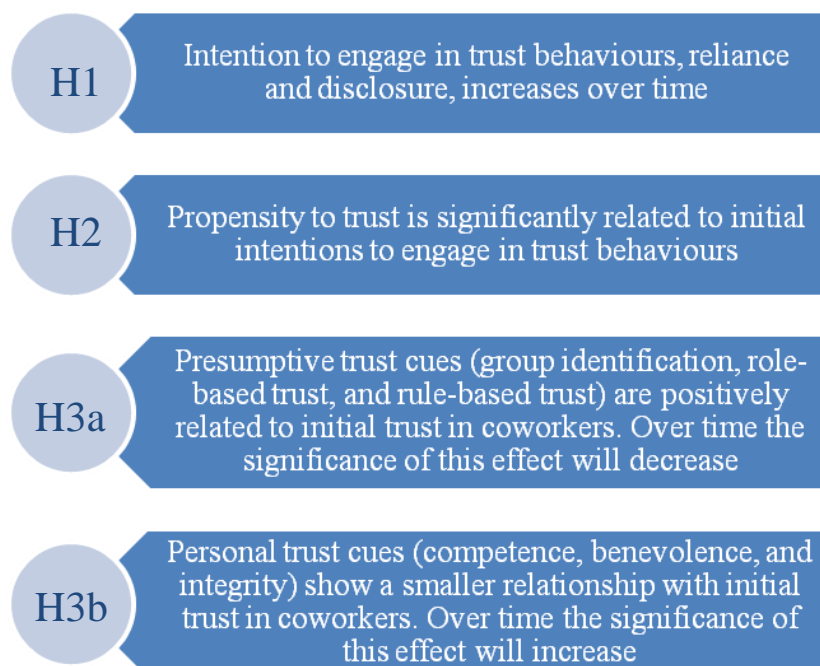


## Research Methodology

### 5.1 Introduction

This chapter discusses the philosophical foundations and methodology used to address the research questions developed in Chapter 4. It is organised into eight main sections designed to provide an explanation of the philosophical and methodological issues considered in the design of this research. First, the philosophical approach underpinning this research is examined in detail. The research design employed in the study is then described with reference to the steps taken to strengthen the study and avoid potential limitations such as common method bias. The characteristics of the research sample are presented followed by details of the pre-testing measures and procedure used to conduct the data collection. The scales selected to measure the variables of interest are examined along with the implications of the response rate at each time point. The final section of this chapter discusses the steps taken to prepare the data for analysis including missing data estimation techniques and an overview of the data analysis strategy.

**Figure 5.1. Research Hypotheses**



## 5.2 Philosophy

The research questions that scholars in a particular field of research pursue are determined to a large extent by the philosophical foundations underpinning that field. The review of the literature presented in previous chapters indicates that the study of trust in organisations is firmly rooted in the positivist tradition (e.g. Colquitt et al., 2007; Dirks & Ferrin, 2002). This trend in the literature has been recognised with the trust research community (Möllering et al., 2004; Wright & Elmer, 2010). The term positivism is usually credited to Auguste Comte (1798-1857), who developed this perspective as an approach to studying social phenomena using a philosophy of empiricism usually applied to the natural sciences (Benton & Craib, 2001). In doing this, Comte argued that the knowledge of social sciences would be purified by reason and rigorous experimentation. This approach has now become the mainstream philosophy used by social scientists across a range of research disciplines, including organisational psychology. For this reason, the philosophical approach of the researcher is rarely discussed explicitly in journals in the organisational psychology field; however the hallmarks of positivism are clearly visible in the techniques that organisational scholars use to build and test their theory.

Positivism is based on a naïve realist ontology which assumes that there is a true reality that can be observed by scientists. Ontology refers to the study of the nature of reality and social entities. Under the positivist ontology, reality is thought to be governed by a set of immutable laws which are independent of time and context. Uncovering these laws is the focus of the majority of positivist research. Once they have been uncovered through research, the laws are used by scientists to explain reality with the ultimate goal of predicting or manipulating the phenomena of interest. Although traditionally the positivist approach suggests that scientists can study only

that which is observable, there has been an acceptance in recent years of inference as a way of making inner psychological processes observable. For example, organisational scholars commonly use multiple item questionnaire scales to observe variables such as individual attitudes and perceptions. Statistical techniques are then used to create latent variables from the observed item responses on each scale. This general acceptance has allowed organisational psychologists to study their variables of interest while maintaining a positivist approach.

When building knowledge, positivists use a hypothetico-deductive model (Creswell, 1994) to generate theoretical models of behaviour from which hypothesised relationships between social phenomena are proposed. Knowledge is then created by scientists through objective, empirical observations of reality, the outcomes of which can be generalised to future situations. Wicks and Freeman (1998) outline three key values of the positivist epistemology which underlies positivist organisational research: i) to discover true reality rather than create it or report a version of reality; ii) to provide a neutral description of that reality and the rules which govern it; iii) to test hypotheses using a scientific method of objective measurement. This objectivist epistemology assumes that the researcher and the focus of the study are separate and that the research findings are not biased or influenced by the researcher's values or beliefs. The potential impact of researcher influence is considered a threat to the validity of the research and is prevented through the use of rigorous methodological procedures.

The methodology employed in positivist research typically involves the collection of quantitative data to verify previously argued hypotheses. As quantitative methodologies require reality to be a concrete concept which can be objectively measured (Daft, 1983), they are ideal for positivist research and the study of variables

with the purpose of uncovering the general laws which govern them (McGuire, 1986). Early trust research, particularly in the fields of social psychology and economics, relied on a very strictly positivist experimental method (e.g. Axelrod, 1984). However, the majority of recent research examining trust in organisations has employed observational field-based methods such as questionnaires; this is typical of the wider body of organisational literature (Mantere & Ketokivi, 2013). This reliance on self-report surveys is due to the general consensus that trust is a psychological state (Rousseau et al., 1998) which exists in the mind of the trustor and thus can only be measured by asking the trustor to report on their own perceptions or intentions (Chan, 2009). Objective measures of cooperation as a proxy for trust are still employed, although mainly outside of the organisational psychology literature (e.g. de Heus, Hoogervorst, & van Dijk, 2010; Pillutla, Malhotra, & Murnighan, 2003). Another alternative for assessing internal states of mind, such as trust, is qualitative research which lends itself to a more in-depth investigation with smaller numbers of participants. The use of qualitative research in the trust literature is limited in comparison to quantitative studies due to a positivist bias for quantitative data. Despite this, qualitative research remains a potentially useful method for tracking the narratives of trust development over time (Lewicki et al., 2006) and for supplementing or guiding quantitative trust research (e.g. Jarvenpaa et al., 1998; Shamir & Lapidot, 2003).

The current study proposes a series of theory driven hypotheses (Figure 5.1) about the nature of trust development between coworkers and the variables which drive trust decisions in a socialisation context. The design of this research has been guided by the ontological, epistemological and methodological principles of a

positivist philosophy. The remainder of this chapter will discuss how the variables of interest were operationalised and tested using quantitative methods.

### **5.3 Research Design**

The effective design of a study, and ultimately the contribution of significant knowledge to an area of academic research, requires a careful matching of methodology to the hypotheses developed from a literature review (Edmondson & McManus, 2007). This research employs a longitudinal, quantitative, field study design using questionnaire surveys to collect data across four separate data collection points.

#### **5.3.1 Quantitative Survey Research**

Quantitative methods are typically used to examine patterns, regularities and relationships in data which are then used to draw conclusions about the widely applicable laws which influence variables of interest (McGuire, 1986). This approach is particularly relevant for testing hypotheses which draw on existing literature to investigate theoretical propositions and provide clarity to a body of inconsistent findings in empirical research using previously validated measures of the concepts under examination (Edmondson & McManus, 2007).

Quantitative surveys are widely recognised as being the most common method of collecting information about unobservable phenomena in the organisational context (Bartlett, 2005). Within the field of organisational psychology, many of the variables of interest are related to personal perceptions and attitudes. This is also true of trust research where quantitative surveys are typically used to obtain information regarding an individual's perception of trustee trustworthiness or their own intention to engage

in a trusting behaviour. Consequently, many studies in the area rely on respondent self-reports of these variables (e.g. Colquitt & Rodell, 2011; Mayer, Bobko, Davis, & Gavin, 2011; Webber, 2008). In this study, a self-report questionnaire was administered to participants using a paper and pen method. Although other modes of administration exist, in this instance the paper and pen method represented the most practical option due to inconsistent computer and internet access for potential respondents across the data collection period.

Although self-report methods have been critiqued for their validity in measuring objective aspects of the work environment (Spector, 1994), they represent the only direct and valid method of gathering information about individual perceptions in the workplace (Chan, 2009). Data collected from nonincumbent raters is prone to inaccuracies and biases of its own (Frese & Zapf, 1988; Spector, 2006). In reality, the quality of any data collected in a quantitative survey is a function of the quality of the survey design process and the scales and instructions which make up the survey items (Rogelberg, Church, Waclawski, & Stanton, 2002). As such, it is important for researchers to be aware of the potential limitations of self-report quantitative surveys. One key concern in the design of any self-report survey is ensuring that variance and covariances observed in the data are a result of trait variance as opposed to error or method variances.

### **5.3.2 Common Method Variance**

Common method variance has been a commonly discussed source of systematic measurement error since Campbell and Fiske's (1959) seminal paper (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). In essence, method variance describes the potential threat to construct validity and distorted covariances posed by

the use of a particular method of measuring research variables (Brannick, Chan, Conway, Lance, & Spector, 2010). The construct validity of a research variable can be compromised if a significant proportion of the variance of a concept is due to the way in which it was measured, rather than changes in levels of the concept itself. The risk of distorted covariances, which generally relates to inflation of observed relationships, is particularly pertinent in research where a single method has been used to measure a number of conceptually distinct variables. The quantitative self-report survey is one example of such research. The potential issue in a quantitative self-report survey is that relationships between antecedents, or between antecedents and consequences, will be influenced by the survey method itself. Early researchers of common method variance have estimated that these issues can explain as much as a third of the variance in relationships reported in the behavioural sciences (Buckley, Cote, & Comstock, 1990), although more recent studies have identified much smaller estimates (16%; Johnson, Rosen, & Djurdjevic, 2011).

Although a number of statistical remedies have been proposed (cf. Podsakoff et al., 2003; Podsakoff, MacKenzie, & Podsakoff, 2012; Richardson, Simmering, & Sturman, 2009), procedural remedies are generally preferable as they target the source of common method variance through improved study design rather than attempting to treat the symptoms, thus providing a more effective, powerful control (Johnson et al., 2011). In this study, procedural remedies were employed in overall research design and in the design of the survey document.

In designing the survey, the recommendations of a number of research methodologists were taken into consideration (Brannick et al., 2010; Podsakoff et al., 2003; Podsakoff et al., 2012). Specifically, the measures used in the survey were selected carefully to ensure they were clear, concise and unambiguous to help

respondents discriminate between concepts. All items were rated by participants using a Likert scale with verbal anchors and a clearly marked midpoint to ensure more accurate positioning of responses. Scale anchors were changed throughout the survey to maintain an optimum level of cognitive processing and increase the salience of survey content. The survey was clearly separated into sections with clear instructions provided for respondents at regular intervals to maximise the salience of the referent in question. Furthermore, the order of variables in the survey was randomised between time points. This helped to reduce the risk that variables measured earlier in the questionnaire primed responses to later items (Podsakoff et al., 2003).

In designing the procedure used to conduct the research, additional techniques were employed to mitigate common method bias (Brannick et al., 2010; Podsakoff et al., 2003; Podsakoff et al., 2012). When the survey was introduced, an emphasis was placed on assuring respondents that items had no right or wrong answer and that all responses to the survey would be confidential. This emphasis reduced the potential for bias in survey response due to social desirability, demand characteristics and acquiescence. The longitudinal design of the research also limited bias in the study by controlling for the effect of participant affect, mood or time of the day influences. Furthermore, by studying the interaction of variables over time, the threat of Type I and II errors due to common method bias was reduced.

In addition, a number of methods exist to assess the extent of common method bias in a data set after the data collection phase. The Harman one factor test is the most widely used of these; this diagnostic test usually involves conducting an unrotated, principle components analysis and checking to see if one factor explains the majority of variance in the data. When the data in this study were subjected to the single factor test, results indicated that thirty eight components exist explaining 82%



of the total variance. The first factor extracted explained a relatively small amount of this total variance (26%). However, the Harman one factor test has been critiqued as being insensitive as it is highly unusual that a one factor model will provide the best fit (Podsakoff et al., 2003). More recently, researchers have argued that the existence of non-significant correlations is evidence that a baseline level of correlation does not exist between all variables measured by the same survey method (Spector, 2006). In this data set, non-significant correlations exist both within and between time points (correlations displayed in full in Chapter 6, Table 6.3) again suggesting that common method variance is not a major limitation in this research. Further support for this is provided in the next chapter when the results of the confirmatory factor analysis are presented. Moreover, leading methodology theorists appear to be reaching consensus that while method variance remains an issue for consideration, the issues associated with it have been overstated (Brannick et al., 2010; Spector, 2006).

### **5.3.3 Longitudinal Field Studies**

Edmondson and McManus (2007) define organisational field research as the systematic study of original data in organisations. Field studies allow researchers to collect rich data regarding the attitudes and behaviours of interest in the real life situations in which they naturally occur (Rogelberg & Stanton, 2007) without experimental manipulation of independent variables. Katz (1953) suggests that field studies can be divided into two categories, those which seek to explore reality in a particular context and those which seek to test specific hypotheses. In line with the more common positivist approach, this research belongs to the second category and aims to test a set of specific hypotheses.

A longitudinal design provides the opportunity to study the development process of variables and provides insight into their temporal nature (Singer & Willet, 2003). This study aims to test a series of longitudinal hypotheses which seek to describe the pattern of change in trust intention levels over time (Hypothesis 1), as well as explain patterns of trust development by identifying the individual differences and trust cues which predict trust at different points of time (Hypothesis 2 & Hypothesis 3). Although almost all of the theories in the organisational literature make dynamic assumptions about interactions between variables, the majority of these assumptions have not been truly tested due to the overwhelming use of cross-sectional designs (Ployhart & Vandenberg, 2010). Despite frequent calls from researchers for an increase in longitudinal studies, the end of the last millennium actually saw a decline in the rate of longitudinal research designs reported in top tier management journals (Scandura & Williams, 2000). Ployhart and Vandenberg (2010) posit that the lack of longitudinal studies is a result of relatively little guidance for researchers in how to deal with the conceptual, methodological and analytical issues associated with measuring change over time.

In order to model change over time, a study must have three characteristics: i) a minimum of three data waves; ii) an interval outcome variable that changes over time; iii) a meaningful conceptualisation of time (Singer & Willet, 2003). The inclusion of three or more data waves allows researchers to examine true changes in a process over time by providing information on the shape of change and minimising the impact of measurement error (Singer & Willet, 2003). The greater the number of waves included in a study, the more accurate and complex models of change can be developed. Longitudinal modelling techniques have been designed to model change in continuous or interval variables which support common mathematical tests (Singer

& Willet, 2003). Although ordinal and nominal variables can be used as predictors in a model, the growth model itself assumes a continuous scale of measurement. In addition, variables modelled in a longitudinal growth model should possess good psychometric properties, including equivalence in measurement over time. The issue of measurement equivalence will be examined in detail in Chapter 6. Finally, the choice of a metric for time in any longitudinal study is an important aspect of modelling change. Generally the metric for time is based on the context and logistics of the research sample and hypotheses. The metric for time used in this research is based on the wave of measurement and the number of weeks of employment, this practice is in line with that of previous socialisation studies (e.g. Lance, Vandenberg, & Self; 2000a; Solinger, van Olffen, Roe, & Hofmans, 2013) and the recommendations of research methodologists (Lance, Meade, & Williamson, 2000b).

## **5.4 Sample**

In longitudinal research, the selection of a sample is of increased importance in maximising the chances of observing the focal variable during a period where change is likely to occur (Ployhart & Vandenberg, 2010). In order to observe trust development from the very beginning of a working relationship, this research drew from a population of new joiners to an organisation. New joiner populations offer a number of advantages to researchers. Most importantly, in a sample of new joiners researchers have the opportunity to study workplace perceptions and attitudes as they form and track them through the early stages of employment. In addition, this population allows the researcher to control for demographic differences such as tenure and employment contract which may impact results in another population.

Participants in this study were new employees in a large Big 4 consultancy firm in Ireland. New recruits all began work for the organisation on the same day, and were assigned to their working groups within an hour of joining the organisation. The entire population of new joiners was invited to participate voluntarily in this research. The demographic characteristics of the sample are displayed in Table 5.1 below. The average age of the sample is 22.26 (*SD* 1.23) and participants were split 54.9% female and 45.1% male. All participants had completed third level education with 36.3% completing masters level courses.

**Table 5.1. Demographic Characteristics of the Sample**

<b>Demographic</b>	<b>N</b>	<b>Percentage</b>	<b>Mean</b>	<b>SD</b>
Gender	Total - 193		-	-
	Female – 106	Female – 54.9%		
	Male – 87	Male – 45.1%		
Age	Total - 193	-	22.26	1.23
Education Level	Total - 193		-	-
	Bachelors Degree – 115	Bachelors Degree – 59.6%		
	Postgraduate Diploma – 8	Postgraduate Diploma – 4.1%		
	Masters Degree – 70	Masters Degree – 36.3%		
Nationality	Total - 193		-	-
	Irish – 180	Irish – 93.3%		
	British – 9	British – 4.7%		
	Chinese – 3	Chinese – 1.6%		
	Nigerian – 1	Nigerian – 0.5%		

Within the sample, participants were assigned to a smaller working group by the organisation. The groups consisted of up to 30 trainee accountants and were formed due to logistical reasons concerning the structuring of the socialisation period and the

training facilities available. These smaller coworker groups formed the basis of the referent in this study. The use of a multiple co-worker referent for trust is in line with previous research in the area (e.g. Colquitt et al., 2011; Schaubroeck, Peng, & Hannah, 2013). Additionally, as data collection began on the first day of employment, it was not possible to identify stable coworker dyads to act as trust referent. However, understanding the development of trust in collective groups is important due to the increasingly team based structure of modern organisations (Fulmer & Gelfand, 2012). In professional service firms in particular, groups and project teams are a typical feature of work and it is through group cooperation that professional service firms generate knowledge and solutions for their clients. Accordingly, in this context the coworker group was considered the most appropriate referent for the study of trust development.

## **5.5 Pre-testing of Survey Tools**

Before beginning data collection, steps were taken to ensure the validity of the questionnaire within the research context. First, a draft of the survey was distributed to experienced researchers in Dublin City University Business School to ensure all theoretically relevant variables were included and that the questionnaire structure was appropriate. The questionnaire was also reviewed by two industry experts, both of whom worked in Big 4 accountancy firms, to ensure the survey items had a high level of face validity for respondents. Next, the survey was administered to a small focus group of three trainee accountants in the target organisation. This provided a useful test of the instructions given to respondents in the questionnaire as well as a further test of face validity in the organisational context. Trainees in the focus group were timed completing the questionnaire to give the researcher a more accurate estimate of

the time needed for survey completion during the study. In addition, focus group attendees were encouraged to discuss the survey instructions and items. As a result of these processes, some small adjustments were made to the clarity of survey instructions and the terminology used to describe the research. For instance, in the instructions provided for section 5 of the survey, the sentence identifying the referent was changed from “coworkers in your group” to “other trainees in your group”. The final survey instrument for Time 1 (included in Appendix B) was composed of seven sections. Section 1 was designed to collect demographic information and the identifier used to connect participant responses across time points. Section 2 assessed individual propensity to trust. Section 3 asked participants to indicate their agreement to statements concerning the organisational environment to measure rule-based trust. Section 4 involved considering the attributes of trainee accountants in general in a measure of role-based trust. Section 5, 6 and 7 required respondents to consider trust intentions, feelings of group identification and perceptions of group member trustworthiness. The order of sections 2 – 7 were alternated at time points 2, 3 and 4 to help avoid common method bias issues (Podsakoff et al., 2003).

## **5.6 Procedure**

The first step in conducting this research involved obtaining ethical approval for the study and negotiating access with the target organisation. Ethical approval to begin data collection was sought from the Dublin City University Ethics research Committee. The letter of approval can be seen in Appendix C.

The organisation selected for data collection was chosen for two main reasons. Firstly, by the nature of their recruitment and training programmes, the organisation typically recruits a large cohort of new joiners to start in the organisation on the same

day and take part in a formal socialisation period. This was important as it ensured participants had similar experiences during their first few months in the firm (e.g. interaction with coworkers, availability of new joiner information etc). Additionally, as all participants joined the organisation on the same, the amount of access needed to conduct a longitudinal study was restricted to a minimum. Secondly, the researcher has a number of contacts within the firm who were able to assist with the provision of long-term access. Access was negotiated with the Director of Learning and Development and the Senior Partner in charge of new joiner socialisation. In return for access, the organisation was offered a report of research findings along with practical recommendations for how the findings could be used to inform the design of the new joiner socialisation process in the future.

The choice of the number and positioning of measurement occasions is critical to any longitudinal study. In line with guidelines in the literature (Ployhart & Vandenberg, 2010; Ployhart & Ward, 2011), this study used four measurement occasions and positioned data collection to capture time periods that were expected to be theoretically interesting, while covering a duration long enough to observe the hypothesised patterns of change. In this instance, it was important to attain data about the initial perceptions of new joiners and to continue measurement throughout the socialisation period to maximise our chances of observing the expected changes in the importance of different trust cues. Previous longitudinal trust studies have examined trust using between two and four data points and with time lags ranging from one week to six months (e.g. Colquitt et al., 2011; Jarvenpaa et al., 1998; Serva et al., 2005; Shamir & Lapidot, 2003; Webber, 2008; Wilson et al., 2006). In this study, all data were collected within the first three months of participant's employment with the organisation. This time period was selected as it (i) represents a theoretically

acceptable time frame for the socialisation of new employees within an organisation (Chen, 2005) and (ii) allowed new recruits sufficient time to interact with their coworkers and the time and opportunity to develop trust intentions.

The data collection schedule was fixed so that all participants responded to the survey at the same time at four data collection points. These points were spaced as evenly as possible over the three month period. However, unequal intervals were logistically necessary due to a series of work experience sessions organised for new recruits which meant that they were unavailable to the researcher at certain times. The resulting design involved collection of data at week 1, week 4, week 10 and week 12 of employment. This represents a limitation in the data in that there is less information available about trust levels during the middle period of socialisation. However, an advantage inherent in this design is that longitudinal research which collects data in waves which are spread away from the mid point of the data collection period (in this case week 6) offer greater reliability and precision in their measurement of change (Singer & Willet, 2003).

Participants were recruited to the study during induction training on their first day of work. Participation in the study was voluntary, unincentivised, and the objectives and longitudinal nature of the research were explained fully at Time 1. A cover letter containing a plain language statement explaining the research and researcher contact details was distributed to participants along with the questionnaire. Questionnaires were completed by participants in the presence of the researcher during working hours at training sessions which were attended in groups of approximately thirty people. Participants were allowed to withdraw from the study at any time.



## 5.7 Responses

In general, it is agreed that higher response rates are preferable as they allow for larger sample sizes with greater statistical power, a better representation of the chosen population, and a smaller risk of bias due to non-response (Baruch & Holtom, 2008). Research which has examined the reasons behind non-response to organisational questionnaires has shown that almost two thirds of non-respondents report that they did not complete the questionnaire as they were either too busy, felt the research was irrelevant to them, were unable to return the questionnaire, or were not encouraged to by company policies (Fenton-O'Creevy, 1996). In longitudinal research, participant attrition and within person non-response issues across waves is common due to absenteeism during the study and feelings of over surveying amongst participants. As this attrition is generally a result of non-random influences, the risk of model misspecification and bias are increased (Newman, 2003). Many academics have provided guidance for researchers in maximising the response rate in quantitative survey research (e.g. Baruch & Holtom, 2008).

In this study a number of techniques were employed to help facilitate a high response rate across the waves of data collection. In particular, aesthetically pleasing surveys were designed and distributed by the researcher in person adding to the legitimacy of the survey (Baruch & Holtom, 2008; Tourangeau, 2004). The researcher was introduced to the group by a senior director in the organisation providing positive social cues for potential participants regarding the topic salience, importance, and company support of the project (Baruch & Holtom, 2008), motivating employees to take part in the research and to respond to survey items with greater care (Rogelberg, Fisher, Maynard, Hakel, & Horvath, 2001). In addition, the plain language statement (Appendix A) provided to participants stressed the

confidentiality of all survey responses. This confidentiality was reinforced by the use of a 6 digit code to link responses across time points and remove the necessity of participants providing their name at each wave of data collection. The response rate of this study was also supported by the context of the sample. As the sample was taken from a population of new recruits to an organisation, absentee levels were low in line with empirical findings in the withdrawal literature that have demonstrated a negative relationship between tenure and absenteeism (e.g. Keller, 1983).

Attrition of participants is a common issue in longitudinal research; however attrition rates in this study were low. Out of 198 potential respondents 195 chose to participate, a response rate of 98.5%. Following Ployhart and Vandenberg's (2010) advice that a minimum of three data points is required to demonstrate non-linear growth over time, participants who responded on less than three occasions were excluded from the study resulting in a final sample of 193 (and overall response rate of 97.5%). In general, it is recommended that longitudinal researchers compare respondents to non-respondents at each time point to detect any patterns in non-response and attrition rates (Vandenberg & Self, 1993). However, in this study the small number of non-responses precluded a meaningful comparison.

## **5.8 Measures**

All variables were assessed at each of the four time points with the exception of propensity to trust which was measured only at Time 1. The order of scales within the survey was randomised between time points to help control for common method variance (Podsakoff et al., 2003). Participants were instructed to answer questions using coworkers in their socialisation group (approximately 30 individuals) as the referent. All items were assessed using a Likert scale ranging from one to seven.

### **5.8.1 Trust Intentions**

Intention to engage in trusting behaviour was measured using the Behavioral Trust Inventory (BTI; Gillespie, 2003). The BTI is based on a definition of trust offered by Rousseau et al. (1998, p.395), which describes it as “a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviour of another”. This basis has been important for the popularity of the BTI in two ways. Firstly, although there is no strict consensus on a definition for trust, the Rousseau conceptualisation is the one of the most widely cited in the literature (Castaldo et al., 2010). Secondly, prior to the publishing of the BTI few validated, psychometrically robust scales existed which were designed to measure trust as a psychological state of the trustor. One commonly used measure of trust as a psychological state was designed by Mayer and Davis (1999). However, the usefulness of this scale is occasionally undermined by problems with psychometric properties such as reliability (e.g. Mayer & Davis, 1999) and suitability for peer relationships (Gillespie, 2012).

Gillespie (2003) suggests that the measurement of an individual’s willingness to engage in trusting behaviour represents a superior method of predicting actual trust in relationships. Based on this belief she developed a two factor scale consisting of ten items, of which five assess willingness to disclose information to the referent and five assess willingness to rely on the referent. Gillespie (2012, p.183) defines reliance as “relying on another’s skills, knowledge, judgements or actions including delegating and giving autonomy” and disclosure as “sharing work-related or personal information of a sensitive nature”. The Behavioural Trust Inventory was selected as it was specifically designed to capture the vulnerability associated with trust behaviours

in peer level working relationships (Lee, Gillespie, Mann, & Wearing, 2010). Items were adapted slightly to reflect coworkers as the relevant referent. A sample item from the reliance subscale is “Depend on your group members to handle an important issue on your behalf”. A sample disclosure item is “Discuss how you honestly feel about your work, even negative feelings and frustration”. Respondents were asked to indicate their willingness to engage in trust behaviour on a seven point Likert scale ranging from “not willing at all” to “completely willing”.

The reliabilities reported in initial validation studies for the BTI are high; Gillespie (2003) reports Cronbach’s alpha of .92 (reliance) and .91 (disclosure) well above the commonly accepted cut off point of .70. Recent use of this scale has specified the immediate manager as a referent and reports acceptable reliabilities ( $\alpha = .89$  and .91 for reliance and disclosure respectively; Lam, Loi, & Leong, 2013). The scale has also been employed in a study of trust in teams (Lee et al., 2010) where the reliability, factor structure and predictive validity of the scale were supported. Importantly for the current research, Lee et al. (2010) also established the psychometric properties of the BTI when the trust referent in question is a group of people or coworkers ( $\alpha = .93$  and .85 for reliance and disclosure respectively). In a recent review of the measures available for operationalising trust in organisational relationships, McEvily and Tortoriello (2011) list the BTI as one of five high quality measures as judged by the processes used in development, the use of a multidimensional conceptualisation of trust and extensive and rigorous validity analyses.

### 5.8.2 Trust Cues

Six trust cues were assessed in this study: competence, benevolence, integrity, rule-based trust, role-based trust and group identification. The cues were selected based on previous literature which suggests that identification, role and rule perceptions form a basis for presumptive trust while competence, benevolence and integrity are commonly considered as the most important factors in more personal trust decisions.

*Presumptive Trust Cues.* This research uses a four item scale developed by McKnight and Chervany (2005) to measure participant perceptions of rule-based trust. The scale assessed perceptions of the structural assurance provided to the trustor by the environment in which they interacted with coworkers. A sample item from the scale is “Fairness to employees is built into how issues are handled in our work environment”. Study participants responded to items of a seven point Likert scale ranging from strongly disagree to strongly agree. In previous research, this scale has shown sound psychometric properties with reliabilities well above the commonly accepted threshold of .70. In their study of IT personnel in Fortune 500 companies, McKnight and Chervany (2005) report an internal consistency level of .95.

Role-based trust was measured using a nine item scale from Grant and Sumanth (2009) which was originally adapted from the integrity and benevolence items of the Mayer and Davis (1999) trustworthiness scale. Items were changed to reflect the respondents’ perception of the trustworthiness of a particular role, in this case to consider trainee accountants as a category. Respondents were asked to

indicate the extent to which they agreed with each of the nine statements about trainee accountants on a seven point Likert scale from strongly disagree to strongly agree.

Group identification was measured using the Mael and Ashforth (1992) scale. One item was excluded from the scale (If a story in the media criticised my group, I would feel embarrassed) due to its lack of face validity in this context. This scale is very well established in the organisational literature and has shown robust psychometric properties at group and organisational levels with a variety of referents (e.g. Johnson, Morgeson, Ilgen, Meyer, & Lloyd, 2006).

*Personal Trust Cues.* The three personal cues were measured using the well-established Mayer and Davis (1999) trustworthiness scale. Items were adapted slightly to reflect the coworker referent in this research. The scale uses six items to measure competence (e.g. I feel very confident about the skills of the other trainees in my group), five items to measure integrity (e.g. The other trainees in my group have a strong sense of justice) and six items to measure benevolence (e.g. The other trainees in my group would not knowingly do anything to hurt me). The scale was developed to assess trustor perceptions of top management competence, benevolence and integrity in a US manufacturing firm. Across repeated administrations of the scale, Mayer and Davis (1999) report Cronbach's alpha scores ranging from .82 to .89. Since the publication of the original paper, the scale has been used widely by trust researchers. The referent of the scale has been adapted to reflect different trust foci including supervisors (Colquitt & Rodell, 2011), student teams (Serva et al., 2005), individuals described in experimental vignettes (Dirks, Kim, Ferrin, & Cooper, 2011) and coworkers (Tan & Lim, 2009). In each case, the scale has shown consistently high psychometric properties.

### **5.8.3 Propensity to Trust**

Finally, individual differences in trust propensity were measured using a seven item scale developed by Jarvenpaa et al. (1998). Although a number of alternative propensity to trust scales were considered for use, the Jarvenpaa et al.'s (1998) scale represented the best face validity for the socialisation context. The scale was developed for use in a population with similar age characteristics and an analogous research context where respondents were required to work with previously unknown others in groups. Furthermore, the scale has shown good psychometric properties in subsequent field studies. Items were adapted to suit the context of this study in line with previous use of the scale in empirical research (Robert, Dennis, & Hung, 2009; Yakovleva et al., 2010). A sample item from the adapted scale is “most people tell the truth about the limits of their knowledge”. Participants were requested to indicate the extent to which they believe each item to be true on a seven point Likert scale from “to no extent” to “to a great extent”. The internal consistency of the scale as reported in previous research is above acceptable thresholds ( $\alpha = .80$ , Yakovleva et al., 2010;  $\alpha = .86$ , Jarvenpaa et al., 1998).

### **5.8.4 Control Variables**

Demographic information was collected from participants with respect to their gender, age and nationality. However, there is no theoretical reason for these variables to impact trust development in this context. Initial data screening confirmed that these variables did not correlate with intention to engage in trust behaviour at any of the four time points. Therefore, following the recommendations of Spector and Brannick (2011), these variables were omitted from further analysis to prevent any possible misinterpretation of the results. Omitting control variables that are unrelated

to the dependent variable also decreases Type I errors while maintaining maximum levels of statistical power (Kraimer, Seibert, Wayne, Liden, & Bravo, 2011).

## **5.9 Data Preparation**

Before any hypothesis testing can be carried out, data must be prepared for data analysis. Data preparation was conducted in three stages. First, the pattern of missingness in the data set was assessed. Next, the raw data and descriptive statistics were screened for any minor errors and potential issues with multicollinearity or outliers. Finally, a strategy for data analysis was prepared.

### **5.9.1 Missing Data**

One of the first steps in preparing for analysis involves examining the missing data issues in a data set. In longitudinal research missing data can occur at an item, survey or participant level. Individuals can choose not to participate in the research altogether, fail to complete the survey at certain points in the research, or choose not to respond to particular survey items. While the first two issues impact the response rate in the sample as discussed above, all three levels of missingness may cause issues for statistical power and external validity if they are not dealt with appropriately (Newman, 2009).

Within each level, the missing data itself can be missing in a systematic or random pattern. Little & Rubin (2002) provide a useful categorisation for missing data: missing completely at random (MCAR); missing at random (MAR); and missing not at random (MNAR). Missing completely at random refers to missing data which is unrelated to any other observed or missing variables; this is the only pattern which is non-systematic. Missing at random describes a pattern of missing data which is



related to some of the observed variables in a data set but not to the values of missing variables. Finally, missing not at random refers to data which is missing as a result of the value of missing variables. In general it is the systematic missing data patterns, MAR and MNAR, which are considered potentially damaging in their ability to bias parameter estimates (Newman, 2009).

There are a variety of statistical techniques designed to deal with missing data; for data with moderate levels of missing data (15-20%) the choice of technique for estimating missing data becomes increasingly important (Newman, 2003). However, when less than 5% of the cases in any variable are missing, the problems posed by missing data become less serious and the use of stringent procedures to deal with missingness become less necessary (Tabachnick & Fidell, 2007). In this instance, the percentage of missingness at the survey level is 1.17% and no items contain more than 3% missing cases. While this suggests that missingness will not cause any major issues in the analysis of this data set, consideration is given to how the small level of missingness should be treated. Missing data analysis in SPSS reveals that the chi square for Little's MCAR test is not statistically significant indicating that data is MCAR. However, methodological theorists argue that missing data in longitudinal studies is actually more likely to be MAR rather than MCAR and a relationship between survey dropouts and their responses is likely (Newman, 2009). As MAR represents a potentially more problematic pattern of missingness, a conservative approach is taken for this research and data are assumed MAR.

In a simulation study of missing data estimation in longitudinal models, Cheung (2007) reports that both listwise deletion and full information maximum likelihood (FIML) procedures perform better than alternative methods when time-invariant variables are MAR. However, due to the reduction in sample size and

increase in standard error associated with listwise deletion, FIML is recommended as a superior option (Cheung, 2007). Furthermore, for time-varying items maximum likelihood approaches such as FIML are recommended over other techniques as they lead to more accurate parameter estimates with appropriate standard errors and are more robust when data is MAR (Newman, 2003). Ployhart and Vandenberg (2010) agree that in longitudinal studies where data is MAR, an FIML approach can be adopted to estimate missing data without introducing any bias. Accordingly, an FIML approach was chosen to deal with the small amount of missing data in this study.

### **5.9.2 Data Screening**

Frequencies and descriptive statistics for all study variables were carefully examined to provide insight into the distribution of responses and the characteristics of the sample. For each variable, means, medians, standard deviations, and minimum and maximum scores were generated to ensure that all values were plausible and within the expected range (Tabachnick & Fidell, 2007). Examining these descriptive statistics also provided a check for minor errors in data entry.

Next the correlations between variables were inspected to check for potential multicollinearity issues. Multicollinearity describes a situation where variables in a study are very highly correlated to the point that they contain redundant information and pose a threat to the validity of the data analysis. A range of thresholds have been proposed as an appropriate cut off point for multicollinear variables from .75 (Ashford & Tsui, 1991) to .90 (Saunders, Lewis, & Thornhill, 2009). Examination of the correlation matrix for variables in this study indicates that there are no correlations above .75. Therefore, it was determined that multicollinearity is not an issue in this research.

### **5.9.3 Data Analysis Strategy**

The data analysis strategy employed for this study focuses on two main objectives. Firstly, the measurement model specified in the study will be inspected to confirm the factor structure, the internal consistency of each measure and to examine the descriptive statistics and the relationships between study variables. Secondly, the analysis will focus on illustrating the process of trust development across four data points, including assessing the equivalence of measurement over time and testing the study hypotheses.

Factor analysis is a method of representing the interrelationships between large numbers of observed variables (e.g. items in a questionnaire) with a smaller number of latent variables (Bollen, 1989). In confirmatory factor analysis (CFA), the measurement model that specifies which items are grouped together as indicators of each latent factor is pre-specified by the researcher and then confirmed through data analysis. Typically, the theorised model is compared to a number of alternative competing models to determine if it best represents the factor structure in a particular sample (Lance & Vandenberg, 2002). In the context of this study, a CFA is used to test if the dimensions of trust intentions and variety of trust cues that are suggested by the theory and previous research also exist in the current sample.

The assessment of measurement invariance is a prerequisite of longitudinal data analysis (e.g. Chan & Schmitt, 2000; Vandenberg & Lance, 2000). Measurement invariance is a psychometric property that indicates the extent to which participants respond to survey items using the same conceptual framework. Measurement invariance testing is central to assessing longitudinal change as it is a method of separating alpha change in the actual level of a variable from beta or gamma changes

arising from a change in measurement tool or in conceptualisation (Chan, 2003). Before testing for changes in levels of trust intention, the possibility that changes are a result of differences in the measurement of these latent variables over time must be ruled out to ensure that new recruits to the organisation have the same understanding of reliance and disclosure on their first day as they do three months into their employment. Invariance of measures over time or groups can be assessed using a variety of techniques (cf. Meade & Lautenschlager, 2004). In this study, the more typical CFA approach is employed to investigate measurement invariance through LISREL, following the guidelines set out by previous authors (Lance et al., 2000a; Vandenberg & Lance, 2000). Invariance can occur at various levels, the level to which invariance testing is necessary is related to the empirical question being assessed. When addressing an empirical question that requires the comparison of groups or within group comparison across time, researchers must first establish the level of invariance of factor structures, factor loadings and intercepts in their data (Cheung & Lau, 2012). Accordingly, it was decided that configural, metric and scalar invariance should be assessed in this analysis.

Once the fit and invariance of the measurement model have been established, the next step in data analysis is to begin testing the hypotheses. Hypothesis 1 relates to the description of the levels of new joiner intentions to engage in trusting behaviour over time, while Hypotheses 2 and 3 relate to explaining which variables impact these levels. Longitudinal change can be modelled using a variety of techniques; however the suitability of traditional methods, including difference scores, repeated measures analysis of variance and time series models, for organisational research settings has been critiqued. Difference scores of change are calculated by subtracting a score at one time point from a score at another (McArdle, 2009). Accordingly, even if a data

set contains multiple waves of data, examining the difference scores provides insight only into the gap between two points of time and difference scores cannot be used to estimate the shape or form of change over time. Furthermore, the use of difference scores has been widely critiqued for their failure to account for measurement error (Cronbach & Furby, 1970; McArdle, 2009). Another commonly employed tool for analysis of multiple waves of longitudinal data is a category of methods commonly referred to as repeated measure analysis of variance. Repeated measures analysis of variance can be used to assess if statistically significant differences can be found between the means observed for a participant at different time points (Tabachnick & Fidell, 2007). Repeated measures analysis of variance represents a particular type of growth model which focuses solely on factor means and fails to account for factor variances (Duncan, Duncan, & Hops, 1996). Moreover, repeated measures analysis of variance relies on data assumptions (such as constant variance and correlations over time and no measurement error) that are often violated by longitudinal data (McArdle, 2009) and prevents the researcher from uncovering individual differences in change over time (Chan, 2003). Time series models represent a third traditional method of analysing longitudinal data, however these models are designed to deal with data sets containing a very large number of repeated measurements which is highly unusual in organisational research (Chan, 2003). Again, time series models assume a lack of measurement error and longitudinal invariance issues which is problematic for the current study.

The development of structural equation modelling has encouraged the use of a series of new techniques which assess longitudinal change using latent variables. The advantage of these techniques is that they allow researchers to develop a more nuanced model of change over time. One of these techniques, latent growth

modelling (LGM), has gained particular prominence in the organisational literature in recent years. LGM is a form of structural equation modelling often used in the social sciences to model longitudinal changes in a variable and the factors which impact that change (Preacher & Hancock, 2012). LGM is a powerful analytic tool which creates two latent variables, initial status and change, from three or more observations of a variable over time using a CFA approach to fix the factor loadings of each observation (Lance et al., 2000b). LGM has several advantages over other methods of longitudinal modelling including greater reliability and flexibility for researchers when adding predictors of initial status and change to the model (Ployhart & Vandenberg, 2010). For these reasons, LGM was selected as the most appropriate method for testing the hypotheses proposed by this study.

## **5.10 Chapter Summary**

This chapter provided an overview of the philosophical and methodological foundations underpinning this research. The design of the study was discussed in detail including the research procedure, the characteristics of the research sample and the measures used to operationalise the main study variables. Finally, this chapter described the process of preparing and screening the data before outlining the strategy for data analysis. Chapter 6 will now discuss the steps taken to analyse the data and the outcome of this analysis.

## **Chapter Six**

### **Data Analysis and Results**

## **Data Analysis and Results**

### **6.1 Introduction**

This chapter picks up from the brief consideration of data analysis options in the methodology chapter and provides an in-depth discussion of the analysis techniques employed in this study. Data analysis was conducted in four consecutive phases, for each phase the data analysis tool will be discussed before reporting the results of the analysis. The first three sections of the chapter involve a discussion of issues pertaining to statistical power, the estimation of model results and the assessment of model fit. The fourth section includes a discussion of confirmatory factor analysis techniques and reports analysis conducted to assess the factor structure of the measurement model. In particular, this will include an examination of the proposed two factor structure of trust intentions (Gillespie, 2003) and an evaluation of the hypothesised nine factor model of trust propensity, trust cues and trust intentions to alternative factor structures. Once the most appropriate factor structure has been identified, the fifth part of this chapter will examine the descriptive statistics and correlation analyses which describe the characteristics of the study sample and the basic relationships between variables. The sixth section involves an investigation of the longitudinal validity of trust intentions with a series of tests to examine the measurement invariance properties of reliance and disclosure across the four waves of data collection. The remainder of the chapter is then dedicated to the discussion and application of latent growth modelling as a method of analysing longitudinal data. The seventh section discusses the theoretical basis of this method and considers potential alternatives, the advantages of latent growth modelling and options for researchers within the latent growth modelling approach. Finally, the hypotheses



proposed in Chapter 4 will be tested using the latent growth modelling and the results of this analysis will be presented.

## **6.2 Statistical Power in Longitudinal Data**

Statistical power describes the likelihood of Type II error (i.e. failing to find a relationship when one exists; Davey & Savla, 2009). In general, the power of a test is influenced by the size of the sample, the size of the effect and the threshold chosen for a Type I error rate (Cohen, 1988). Typically, in organisational sciences the accepted threshold for a Type I error rate is .05 although researchers also often report a second more stringent threshold of .001. In this research both thresholds will be reported.

Within the structural equation modelling framework, power analysis is complicated by the large number of often interdependent parameters estimated by the model including means, intercepts, variances, covariances and regression coefficients (Davey & Savla, 2009). In latent growth models in particular, statistical power describes the likelihood of rejecting the hypothesised growth pattern if it does not represent the population (Preacher, Wickman, MacCallum, & Briggs, 2008). Although several rules of thumb (e.g. a certain number of observations per parameter or variable) have been suggested, none of these are universally applicable (Muthen & Muthen, 2002). Muthen & Muthen (2002) use a Monte Carlo study to determine the appropriate sample size for a latent growth model and reveal that for a simple growth model with no covariates a sample size of 40 is needed to accurately detect changes in slope. However, the necessary sample size increases significantly according to the amount of missing data, and the number and nature of covariates added (Muthen & Muthen, 2002). Davey and Savla (2009) argue that conducting Monte Carlo studies to determine statistical power in complex models (e.g. LGM with missing data and

covariates) is overly labour intensive, and that the effect of missing data on power is by no means straightforward. They provide an overview of the statistical power of longitudinal analysis in data sets with 0 – 95% missingness. Their analysis suggests that even with 50% of data MAR, the power of a LGM to detect variance and covariance in longitudinal change is between .65 and .75. With a small percentage of data MAR or MCAR (e.g. < 3% in this data set), sample sizes of approximately 200 participants are likely to meet the commonly accepted threshold of .80 statistical power (Davey & Salva, 2009).

Within the organisational psychology literature, previous studies using a LGM approach have reported a range of sample sizes many of which offer less statistical power than the 193 participants observed in this research. For instance, a recent study of role stressors and job attitudes in organisational newcomers uses a sample size of 170 across three data waves (Vandenberghe, Panaccio, Bentein, Mignonac, & Roussel, 2011). A study of psychological capital in a financial service firms reports the use of LGM to analyse three waves of data with a sample of 179 employees (Peterson, Luthans, Avolio, Walumbwa, & Zhang, 2011). Similarly, Salmela-Aro, Tolvanen and Nurmi (2011) report a final sample size at wave six of 171 participants in their study of long-term career burnout and engagement. Considering these trends and the work of Davey and Salva (2009), it was determined that this data set provided sufficient statistical power to proceed with analysis.

### **6.3 Model Estimation and Goodness of Fit**

The confirmatory factor analysis, measurement invariance testing and LGM techniques employed in this research use a maximum likelihood (ML) estimation procedure to estimate model parameters. ML is the most commonly used estimation

method in the structural equation modelling framework for continuous variables which display multivariate normal distribution (Beauducel & Herzberg, 2006). ML operates by using all of the information provided by the data set to maximise the likelihood that the estimates provided represent the population (Kline, 2011). The ML approach is the default method in the majority of structural equation modelling programs and its use is so widely established that the “use of an estimation method other than ML requires explicit justification” (Kline, 2011, p. 154).

Model fit in each section is interpreted using four goodness of fit indices: i) the chi-square statistic; ii) the comparative fit index (CFI; Bentler, 1990); iii) the root mean square error of approximation (RMSEA; Steiger, 1990); and iv) the standardised root mean square residual (SRMR; Bentler, 1995). The chi-square statistic indicates badness of fit in the model where higher values of chi-square indicate deviations between the predicted covariances and those observed in the population. Traditionally, a significant chi-square resulted in rejection of the hypothesised model. However, the chi-square statistic is often reported to be overly sensitive to variations in sample size, correlation sizes, residual variances and violations of multivariate non-normality, for this reason researchers often consider it in conjunction with other fit statistics (Kline, 2011). Chi-square provides the basis for comparison between models and for the calculation of an array of other goodness of fit indices. One of the most commonly reported goodness of fit indices is the CFI, an incremental fit index which measures the fit of the hypothesised model in comparison to a baseline model where zero covariances are assumed among variables (Kline, 2011). The inclusion of the RMSEA and SRMR fit indices provides additional information about the extent of misfit in the population (not just the study sample) and the magnitude of the residuals in the model respectively (Preacher et al., 2008). Kline

(2005) advises that good model fit can be inferred when the chi square/degrees of freedom ratio falls below 3 and CFI rises above .90. In addition, SRMR indices of less than .08 and RMSEA indices of less than .06 generally indicate good model fit (Hu & Bentler, 1999; Lance & Vandenberg, 2002).

#### **6.4 Confirmatory Factor Analysis**

The phenomena of interest in organisational psychology are typically studied using multi item scales, where items are thought to represent facets of an underlying latent construct. Factor analysis involves testing hypotheses about relationships between these observed items and their latent variable constructs (Bollen, 1989). Confirmatory factor analysis (CFA) is a structural equation modelling method which is typically used for scale development, construct validation and measurement model validation (Brown, 2006). In addition to testing relationships between latent variables and their indicators, CFA also allows the specification of relationships between latent constructs themselves (Brown, 2006; Jackson, Gillaspay, & Purc-Stephenson, 2009). As such, CFA provides an opportunity to test convergent and discriminant validity by assessing the degree to which theoretically similar observed variables relate to the same latent variable while theoretically distinct observed variables show lower inter-correlations (Brown, 2006). CFA differs from exploratory factor analysis (EFA) in that it involves testing or confirming a theoretical, pre-specified measurement model (Hurley, Scandura, Schriesheim, Brannick, Seers, Vandenberg, & Williams, 1997).

In a CFA model, each indicator is specified to load on a single latent variable and relationships between that indicator and other latent variables in the model are constrained to zero. The CFA then estimates the extent to which the item response reflects the underlying latent variable using a factor loading estimate. Standardised

factor loadings with a value of 1 indicate that the item is an exact indicator of the latent variable (Williams, Edwards, & Vandenberg, 2009). This model structure is in contrast to EFA models where indicators are allowed to load onto more than one factor. CFA is a more flexible modelling technique than EFA as it allows the researcher to constrain particular loadings or correlations, account for measurement error and allow residual variances to correlate, and provides a role for previous theoretical and empirical knowledge (Bollen, 1989).

CFA indicators can be specified using one of two alternative methods: total disaggregation and partial disaggregation. This research employs a process of total disaggregation in which the indicators for each latent variable are defined as the individual survey items which participants respond to. Partial disaggregation represents an alternative approach that involves the parcelling of survey items into groups and specifying these groups as latent variable indicators. The total disaggregation approach was chosen as it uses all the available information provided by the respondent and represents a more conservative approach in terms of achieving model fit while avoiding misspecification (Williams et al., 2009). In line with the majority of organisational research, the CFA models specified in this study adopt a reflective (rather than formative) approach and causality is assumed to run from the latent variable to the observed constructs (Williams et al., 2009). For example, an individual's intention to engage in reliance behaviour is thought to drive their responses on the Likert scale provided for each of the five reliance items. This reflective model structure can be seen in the direction of the arrows depicted in Figure 6.1, Section 6.4.1.

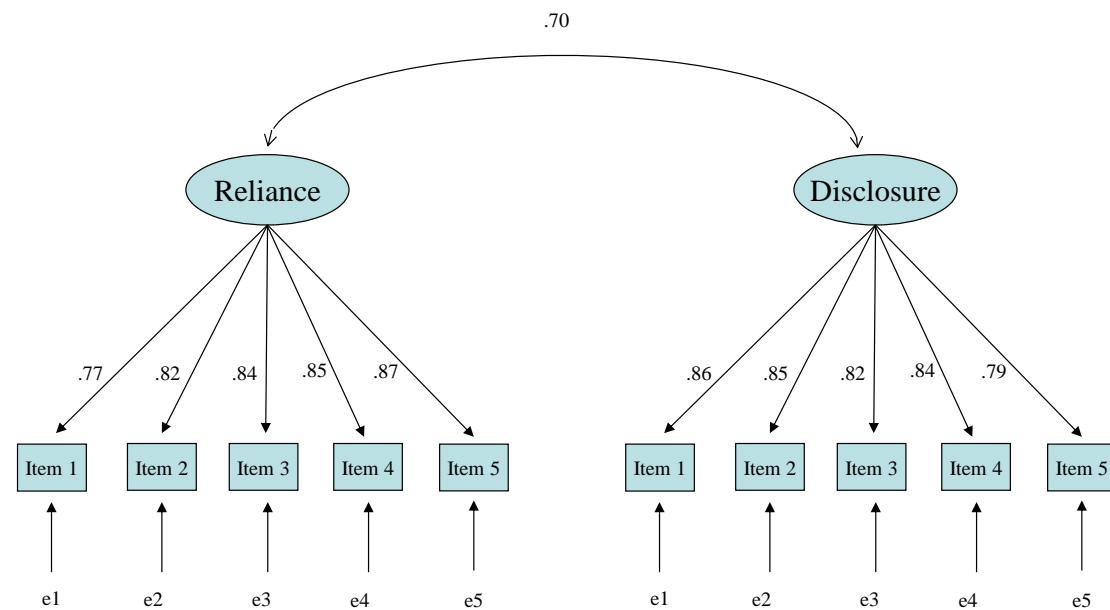
CFA allows researchers to identify the extent to which a pre-specified measurement model is representative of the data. The items included in the survey for this research were chosen as they have been shown previously to provide a useful method of measuring the constructs of interest. Using CFA, it can be confirmed that the division of these items into their scales and subscales is appropriate in this sample. For instance, trust intentions in this research are being measured using Gillespie's (2003) scale to assess the two facets of trust intention – reliance and disclosure. This measure of trust is established in the literature and the division of the variable into two separate factors has received support from principal components analysis (Lee et al., 2010) and confirmatory factor analysis (Alexopoulos & Buckley, 2013; Lam et al., 2013). However, neither the Alexopoulos and Buckley (2013) nor the Lam et al. (2013) paper reports the comparison of a two factor model where reliance and disclosure are distinct to one where they are collapsed into a single latent trust factor, focusing instead on confirming the structure of their full measurement model. There is currently limited information available in the literature regarding confirmatory factor analysis of the scale following its initial validation. By comparing the reliance and disclosure model of trust intentions to a model where the two factors are collapsed into one trust factor, it can be determined whether this theoretical model is a reasonable representation of the data in this study. This practice is referred to as the comparison of hierarchical or nested models where one model is a subset of the other (Kline, 2011). Kline (2011) explains that when a parameter in a model is changed from freely estimated to be constrained, that constrained model is said to be nested in the original model. Researchers are advised to test and compare a number of competing theoretical models when conducting CFA analysis (Bentler & Bonnett, 1980; Jackson et al., 2009). Nested models can be compared across a variety of

goodness of fit measures. Whether a CFA model represents a good fit for the data reflects the extent to which the constrained loadings are reasonable; if restricted items cross load onto theoretically unrelated latent constructs, this will result in poorer fit (Lance & Vandenberg, 2002).

#### **6.4.1 CFA Results**

A series of CFAs were performed using Time 1 data to determine the best model fit for the data. To compare alternative models the chi square difference test was used (Bentler & Bonett, 1980). This analysis took place in two stages. First, the factor structure of Gillespie's (2003) Behavioral Trust Inventory was examined. Analysis revealed that a two factor structure, where reliance and disclosure are treated as separate dimensions, represents a significantly better fit for the data ( $\chi^2 (34) = 156.59, p < .001, CFI = .92, RMSEA = .14, SRMR = .05$ ) than a one factor model ( $\chi^2 (35) = 415, p < .001, CFI = .75, RMSEA = .24, SRMR = .10$ ). Both latent factors exhibited significant factor loadings ( $p < .001$ ) on to their respective indicators providing support for the convergent validity of the scale (Anderson & Gerbing, 1998). Figure 6.1 displays the factor loadings for each item in the two factor model as well as the correlation between the latent variables. These results clearly support the validity of the factor structure proposed by Gillespie (2003).

**Figure 6.1. CFA structure of the Behavioral Trust Inventory**



Next a series of nested models were compared to confirm the target measurement model. The hypothesised model in this study contains nine factors: reliance, disclosure, competence, benevolence, integrity, rule-based trust, role-based trust, identification and propensity to trust. This nine factor model represents the target model based on previous theoretical and empirical work, however other plausible models exist. The nine factor target model in this study will be compared to alternative models where some or all of these factors are collapsed. Decisions on which factors should be collapsed for each model were based on theory and the treatment of variables in previous empirical research. Results in Table 6.1 show that the nine factor target model achieved superior fit ( $\chi^2(1188) = 2102.94$ ,  $p < .001$ , CFI = .89, RMSEA = .06, SRMR = .06) to each of the alternative models tested. Similar results were found across alternative waves of data collection.



**Table 6.1. Tests of Alternative CFA Model Specifications**

Model	$\chi^2$	df	CFI	RMSEA	SRMR	$\Delta\chi^2$	$\Delta$ df
1. 9-factor Target Model	2102.94*	1188	.89	.06	.06	-	-
2. 8-factor (Trust collapsed)	2392.10*	1196	.85	.07	.06	289.15*	8
3. 6-factor (Trust & Trustworthiness collapsed)	2907.90*	1206	.79	.09	.07	515.8*	10
4. 3-factor (Trust & Trust Cues collapsed)	4255.30*	1221	.63	.11	.09	1347.39*	15
5. 1-factor (All scales collapsed)	4883.78*	1224	.55	.12	.10	628.48*	3

\* $p < .001$

Output generated by MPlus includes modification indices which identify parameters in the model which could be adjusted to improve model fit. In particular, modification indices provide guidance on the addition of correlations between the residuals of items in the CFA which can significantly improve model fit. Indicator residuals can be defined as the variance in the item which is not explained by the corresponding latent factor, this includes measurement error (Kline, 2011). The practice of correlating indicator residuals is prevalent in the area of organisational sciences (Landis, Edwards, & Cortina, 2009) and applications of the procedure have been published in top tier journals in the area (e.g. Seibert, Kraimer, & Liden, 2001). Cole, Ciesla and Steiger (2007) note that up to 32% of CFA models reported in top tier American Psychological Association journals allow indicator residuals to

correlate; many of these adopted the practice in order to achieve improved model fit. In line with this body of literature, the modification indices of the nine factor target model were examined and a number of correlations were identified as being potentially beneficial to model fit.

The residuals of item 1 and 2 of the reliance scale, item 1 and 2 of the disclosure scale, item 1 and 2 of the benevolence scale, items 7 and 9, and 8 and 9 of the role-based trust scale, item 3 and 4 of the competence scale, item 5 and 6 of the integrity scale, and item 4 and 5 from the group identification scale were allowed to correlate. This improved the fit of the target model ( $\chi^2(1182) = 1846.43$ ,  $p < .001$ , CFI = .92, RMSEA = .05, SRMR = .06) significantly ( $\Delta\chi^2 = 256.52$ ,  $\Delta df = 6$ ,  $p < .001$ ). These correlated residuals suggest that as well as being caused by the specified latent variable, subsets of items within these scales may be influenced by an unspecified variable such as a common method factor (Landis et al., 2009). While initial investigation of common method variance reported in Chapter 5 indicated that method bias is not a pervasive issue in this study, the Harman one factor test has been criticised for being insensitive. At this stage, further investigation of common method variance is warranted. This was conducted using the single method factor procedure (Podsakoff et al., 2012). This was achieved through the addition of a general method factor with all items in the measurement model set as indicators. Results showed that the factor loadings for the nine factors of the measurement model were almost identical to those obtained in the original nine factor CFA supporting the fact that common method variance is not a problematic source of bias in this data.

Although correlating residuals in a CFA can improve model fit, research methodologists have argued that correlating the residuals based on the output of the

original analysis is tantamount to capitalising on chance and effectively pushes the analysis from a confirmatory into an exploratory mode (Hurley et al., 1997). By altering the model in this way, researchers are responding to sample-specific characteristics which are unlikely to apply to the population as a whole (Landis et al., 2009). Furthermore, correlating indicator residuals is atheoretical as item residuals are by definition unique to each item while shared variance is represented by factor loadings onto the latent factor (Landis et al., 2009). The self-report methods employed by organisational researchers can necessitate a certain number of correlations amongst residuals (e.g. measurement of the same item within person over time; Cole et al., 2007). However, any necessary correlations should be driven by theory and specified in the original model rather than added post hoc. Although the modified model demonstrated superior fit, given these criticisms and the nature of this research as a PhD thesis, a more conservative approach was adopted and the original CFA model was accepted (see Table 6.1).

## **6.5 Descriptive Statistics and Scale Reliabilities**

The first step in analysing the data was to examine descriptive statistics which were generated using SPSS. Table 6.3 presents the means, standard deviations and internal consistency of each of the study variables as well as the correlations between them. The means for reliance and disclosure increase across each time point providing initial support for Hypothesis 1. Mean levels of reported reliance and disclosure intentions are in line with results reported by previously published uses of the Behavioral Trust Inventory. Specifically, Lee et al. (2010) report means of 5.29 and 5.47 for intention to rely on team members and leaders and of 4.64 and 4.69 for intention to disclosure to team members and leaders respectively. In a study of trust

in supervisors, Lam et al. (2013) report slightly lower means of 4.06 (reliance) and 3.76 (disclosure). Similarly, research conducted with an Irish sample reports means of 4.74 (reliance) and 3.53 (disclosure; Alexopoulos & Buckley, 2013). In Gillespie's initial validation study, the means for reliance (in supervisors  $M = 5.59$ , in subordinates  $M = 5.78$ , and in peers  $M = 5.48$ ) was also higher than those reported for disclosure (in supervisors  $M = 4.95$ , in subordinates  $M = 5.19$ , and in peers  $M = 4.85$ ) suggesting that in general individuals are more willing to engage in reliance behaviours than to disclose information to others in the workplace. A full comparison is displayed in Table 6.2 below.

**Table 6.2. A Comparison of Trust Intention Levels Across Samples**

Sample	Referent	N	Reliance		Disclosure	
			Mean	Standard Deviation	Mean	Standard Deviation
Irish trainee accountants (present sample)	Peer Referent	193	T1 – 4.85	T1 – .88	T1 – 4.11	T1 – 1.05
			T2 – 5.26	T2 – .76	T2 – 4.61	T2 – .96
			T3 – 5.29	T3 – .84	T3 – 4.66	T3 – 1.04
			T4 – 5.49	T4 – .77	T4 – 4.97	T4 – 1.08
Irish knowledge workers	Peer Referent	135	4.74	1.55	3.53	1.60
Australian automotive teams	Team Referent	166	5.29	.71	4.64	.79
	Supervisor Referent	166	5.47	.82	4.69	.91
Chinese sales agents	Supervisor Referent	111	4.06	.57	3.76	.69
Australian R&D teams	Supervisor Referent	234	5.59	1.28	4.95	1.44
	Subordinate Referent	77	5.78	1.22	5.19	1.38
	Peer Referent	220	5.48	1.33	4.85	1.43

The correlation results indicate a significant relationship between reliance at Time 1 and reliance at Time 2, 3 and 4. The same pattern of correlation exists for the disclosure variable across time points. Reliance at Time 1 also correlates with disclosure at Time 1 but not with disclosure at Time 2, 3 or 4. In contrast, disclosure at Time 1 shows a significant correlation with reliance at each of the subsequent time points. At Time 1, 3 and 4 both reliance and disclosure have a significant positive correlation with all six of the trust cue variables. At Time 2 these correlations are also present, however the correlation between disclosure and group identification is not statistically significant. The findings also indicate a positive and significant correlation between propensity to trust and reliance and disclosure at Time 1 and Time 4. At Time 2 and 3 propensity to trust is significantly correlated with reliance but not disclosure.

The internal consistency of each of the study variables was assessed using Cronbach's alpha. The commonly accepted threshold for reliability is .70. All variables demonstrated acceptable levels of reliability with the exception of the seven item propensity to trust scale (Jarvenpaa et al., 1998). Inspection of the analysis output for this scale indicated that the reliability could be improved by removing one negatively worded item ("If possible, it is best to avoid working with people on projects"). Reliability for the remaining six items was above commonly accepted levels (.71).

**Table 6.3. Descriptive Statistics and Correlations Among Study Variables**

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	
1. T1Reliance	4.85	0.88	(.85)																																	
2. T1Disclosure	4.11	1.05	.38**	(.85)																																
3. T1Competence	5.27	0.9	.46**	.34**	(.93)																															
4. T1Benevolence	4.46	0.88	.32**	.45**	.64**	(.85)																														
5. T1Integrity	4.86	0.82	.42**	.38**	.74**	.72**	(.84)																													
6. T1Group Id	5.11	0.95	.30**	.25**	.42**	.38**	.39**	(.75)																												
7. T1Role based	4.91	0.78	.31**	.30**	.34**	.47**	.45**	.26**	(.89)																											
8. T1Rule based	5.83	0.91	.20*	.25**	.31**	.25**	.31**	.32**	.38**	(.92)																										
9. T2Reliance	5.26	0.76	.39**	.26**	.38**	.29**	.27**	.26**	.30**	.24**	(.86)																									
10. T2Disclosure	4.61	0.96	.06	.36**	.14	.20*	.14	.36**	.18*	.12	.37**	(.85)																								
11. T2Competence	5.46	0.73	.32**	.22*	.48**	.35**	.35**	.22*	.31**	.24**	.62**	.35**	(.89)																							
12. T2Benevolence	4.66	0.85	.18*	.24**	.29**	.47**	.36**	.24**	.34**	.18*	.45**	.46**	.57**	(.85)																						
13. T2Integrity	5.03	0.71	.25**	.24**	.40**	.42**	.44**	.24**	.32**	.27**	.38**	.31**	.64**	.66**	(.79)																					
14. T2Group Id	5.14	0.91	.21*	.15*	.27**	.20*	.21*	.15*	.12	.20*	.31**	.13	.38**	.37**	.47**	(.77)																				
15. T2Role based	5.09	0.77	.23**	.20*	.37**	.44**	.34**	.20*	.39**	.31**	.36**	.20*	.55**	.62**	.66**	.44**	(.94)																			
16. T2Rule based	5.74	0.88	.14	.25**	.35**	.34**	.30**	.25**	.29**	.44**	.32**	.21*	.45**	.43**	.55**	.36**	.57**	(.95)																		
17. T3Reliance	5.29	0.84	.31**	.25**	.18*	.13	.16*	.25**	.24**	.16*	.52**	.32**	.46**	.40**	.42**	.18*	.34**	.20*	(.91)																	
18. T3Disclosure	4.66	1.04	-.01	.20*	-.02	.10	-.01	.20*	.12	.10	.21*	.45**	.30**	.36**	.25**	.03	.23*	.10	.48**	(.89)																
19. T3Competence	5.49	0.75	.19*	.07	.31**	.20*	.21*	.07	.30**	.18*	.36**	.31**	.59**	.39**	.49**	.28**	.40**	.34**	.57**	.42**	(.92)															
20. T3Benevolence	4.72	0.88	.02	.08	.11	.33**	.20*	.08	.28**	.09	.21*	.30**	.32**	.51**	.39**	.10	.30**	.22*	.42**	.56**	.60**	(.86)														
21. T3Integrity	5.04	0.71	.09	.08	.13	.16*	.22*	.08	.27**	.10	.21*	.24**	.33**	.38**	.50*	.10	.35**	.26**	.56**	.48**	.68**	.64**	(.79)													
22. T3Group Id	5.12	0.92	.08	.12	.17*	.16*	.15*	.12	.27**	.10	.22*	.23*	.30**	.31**	.35**	.45**	.32**	.15*	.37**	.36**	.49**	.47**	.46**	(.83)												
23. T3Role based	5.02	0.76	.10	.13	.19*	.28**	.22*	.13	.43**	.27**	.27**	.20*	.35**	.38**	.42**	.11	.53**	.42**	.40**	.41**	.53**	.56**	.63**	.47**	(.94)											
24. T3Rule based	5.53	0.99	.23*	.33**	.19*	.15*	.21*	.33**	.39**	.34**	.32**	.24**	.28**	.33**	.38**	.25**	.37**	.53**	.36**	.21*	.37**	.29**	.43**	.36**	.59**	(.96)										
25. T4Reliance	5.49	0.77	.15*	.19*	.13	.14	.14	.19*	.28**	.17*	.42**	.27**	.40**	.36**	.36**	.17*	.31**	.32**	.66**	.41**	.55**	.48**	.56**	.35**	.50*	.47**	(.92)									
26. T4Disclosure	4.97	1.08	-.01	.32**	.09	.15*	.07	.32**	.15*	.16*	.23**	.45**	.26**	.38**	.26**	.15*	.19*	.23**	.38**	.58**	.37**	.40**	.36**	.28**	.41**	.38**	.64**	(.92)								
27. T4Competence	5.65	0.78	.13	.11	.33**	.21*	.24**	.11	.24**	.18*	.34**	.28**	.53**	.35**	.39**	.23**	.30**	.30**	.43**	.31**	.62**	.45**	.46**	.36**	.44**	.33**	.67**	.51**	(.95)							
28. T4Benevolence	5.09	0.97	.01	.12	.11	.22*	.10	.12	.25**	.07	.22*	.24**	.29**	.43**	.36**	.19*	.29**	.27**	.34**	.37**	.45**	.59**	.47**	.33**	.51**	.35**	.59**	.62**	.71**	(.92)						
29. T4Integrity	5.11	0.83	.09	.14	.21*	.26**	.25**	.14	.30**	.26**	.20*	.22*	.33**	.35**	.44**	.17*	.38**	.42**	.38**	.27**	.49**	.48**	.54**	.37**	.60**	.49**	.59**	.46**	.69**	.71**	(.80)					
30. T4Group Id	5.31	1.05	.12	.15*	.16*	.18*	.20*	.15*	.28**	.18*	.25**	.26**	.31**	.36**	.38**	.46**	.33**	.20*	.43**	.33**	.47**	.40**	.42**	.62**	.45**	.40**	.60**	.45**	.57**	.50**	.57**	(.88)				
31. T4Role based	5.19	0.91	.16*	.17*	.29**	.33**	.27**	.17*	.40**	.27**	.29**	.24**	.36**	.44**	.47**	.25**	.52**	.45**	.39**	.35**	.48**	.47**	.51**	.41**	.71**	.54**	.54**	.46**	.52**	.62**	.70**	.56**	(.96)			
32. T4Rule based	5.32	1.01	.16*	.23**	.26**	.16*	.21*	.23**	.23**	.34**	.34**	.15*	.28**	.30**	.30**	.20*	.37**	.41**	.34**	.25**	.31**	.30**	.37**	.28**	.49**	.60**	.48**	.39**	.36**	.38**	.50**	.34**	.51**	(.93)		
33. Propensity to Trust	4.51	0.67	.19*	.17*	.27**	.24**	.27**	.04	.43**	.31**	.21*	.09	.29**	.21*	.23**	.13	.28**	.15*	.20*	.12	.24**	.25**	.17*	.14	.17*	.08	.20*	.15*	.16*	.19*	.14*	.17*	.08	.18*	(.71)	

N = 193

\*Coefficient alpha reliability estimates are in parentheses.

\*\*  $p < .01$ ; \*  $p < .05$

## **6.6 Measurement Invariance**

In illustrating the process of trust development over time, this research focuses on changes in trust behaviours (reliance and disclosure) across four data points. In recent years, researchers in the field of organisational psychology have called for the assessment of measurement invariance, the stability of the conceptual framework participants use to respond to survey items, as a prerequisite of longitudinal data analysis (e.g. Chan & Schmitt, 2000; Vandenberg & Lance, 2000). Measurement invariance (or equivalence) is a psychometric property indicating that groups interpret and respond to measures in a similar way (Vandenberg & Lance, 2000). Invariance tests are typically employed for one of two purposes i) to test if invariance exists across categorical groups (e.g. gender, culture or organisation), or ii) to test if invariance exists within a single group, across time.

Before testing for changes in levels of trust behaviour, the possibility that changes are a result of differences in the measurement of these latent variables over time must be ruled out. Chan (2003) explains that measurement invariance testing provides a means of separating alpha change in a variable from beta and gamma changes. Alpha change represents changes in actual levels of a variable holding the conceptualisation (gamma change) and measurement (beta change) of the variable constant over time (Golembiewski, Billingsley, & Yeager, 1976). The elimination of beta and gamma changes is particularly important in socialisation research as the context itself may induce changes in newcomer responses to survey items or understanding of work related variables (Saks & Ashforth, 1997b). Examination of the measurement invariance of the BTI indicates whether new recruits to the

organisation have the same understanding of reliance and disclosure on their first day as they do three months into their employment.

To investigate measurement invariance, a CFA approach was used in LISREL following the guidelines set out by previous authors (Lance et al., 2000a; Vandenberg & Lance, 2000). When addressing an empirical question that requires the comparison of groups or within group comparison across time, researchers must first establish the level of invariance of factor structures, factor loadings and intercepts in their data (Cheung & Lau, 2012). Accordingly, three steps were followed to assess measurement invariance in reliance and disclosure. At each step, increasingly stringent constraints are placed on the model to determine if these constraints result in a significant decrease in model fit. Changes in the fit of measurement invariance models are commonly assessed using one of two criteria: changes in chi square across nested models using the likelihood ratio test (LRT; Bollen, 1989), or changes in CFI (Cheung & Rensvold, 2002; Meade, Johnson, & Braddy, 2008). Using the LRT, violations of measurement invariance are indicated by a significant increase in the chi square index. The LRT carries the same limitations (e.g. sensitivity to sample size) as other chi square tests prompting many researchers to suggest the use of alternative fit indices. Meade and colleagues (2008) argue that the LRT test can be too conservative, picking up on minute differences in measurement properties between samples. As an alternative, the  $\Delta$ CFI has been recommended as a more suitable indicator, less sensitive to sample size issues and more sensitive to true lack of invariance (Cheung & Rensvold, 2002). Cheung and Rensvold (2002) suggest that a decrease in CFI of .01 or greater can be taken as an indication of non-invariance. In this analysis both of these indices will be reported and examined.



In the first step of measurement invariance testing, configural invariance was assessed to check if the same two factor structure generalizes over time. Acceptable model fit ( $\chi^2(572) = 1188.92$ ,  $p < .001$ , CFI = .95, RMSEA = .07, SRMR = .07) indicates that two factors exist in every data wave and that the same items are loading onto the reliance and disclosure factors at each time point. The second step involves a test of metric invariance where item factor loadings are constrained to be equal across measurement waves. Goodness of fit indices ( $\chi^2(596) = 1233.83$ ,  $p < .001$ , CFI = .95, RMSEA = .07, SRMR = .07) were compared to the configural model; no change was observed in CFI and the decrease in model fit indicated by the  $\Delta\chi^2$  was not significant at the  $p < .001$  level. Thus, metric invariance was established.

Finally, scalar invariance was assessed by constraining the item intercepts to be equal across data waves. A significant  $\Delta\chi^2$  and change in CFI ( $\chi^2(620) = 1390.36$ ,  $p < .001$ , CFI = .94, RMSEA = .08, SRMR = .07) indicate the existence of some level of non-invariance of item intercepts. Following the recommendations of Byrne and colleagues (Byrne, Shavelson, & Muthen, 1989), further investigation was conducted in an attempt to achieve partial scalar invariance. To determine which items may be causing non-invariance issues in the measurement model, the LISREL output of the metric invariance model was examined, in particular the tau parameters which indicate item intercepts at each time point. To identify items which functioned differentially across data waves, 95% confidence intervals were constructed using the tau parameter estimates and standard error values for each item. Tau parameter confidence intervals from the previous level of invariance testing was deemed more appropriate than the use of modification indices as modification indices assume all other estimated parameters are correct and unrelated to the item being freed, increasing the risk of false detection (Yoon & Millsap, 2007). Using these confidence

intervals, three items out of ten (2 disclosure and 1 reliance) were identified as showing higher levels of variance over time and the constraints on these items were then removed one by one. The items which displayed the highest levels of variance were: “Rely on your group members to represent your work accurately to others”, “Discuss how you honestly feel about your work, even negative feelings and frustration”, and “Discuss work-related problems or difficulties that could potentially be used to disadvantage you”. Allowing the intercepts to vary on these three items resulted in a model which showed no difference in CFI and a change in  $\chi^2$  which is not significant at the  $p < .001$  level ( $\chi^2(611) = 1267.96$ ,  $p < .001$ , CFI = .95, RMSEA = .07, SRMR = .07). Results are displayed in Table 6.4.

**Table 6.4. Measurement Invariance Tests**

Model	$\chi^2$	df	CFI	RMSEA	SRMR	$\Delta \chi^2$	$\Delta$ df
1. Configural Invariance	1188.92*	572	.95	.07	.07		
2. Metric Invariance	1233.83*	596	.95	.07	.07	44.91	24
3. Scalar Invariance	1390.36*	620	.94	.08	.07	156.53*	24
4. Partial Scalar Invariance	1267.96*	611	.95	.07	.07	34.13	15

\* $p < .001$

The level of partial invariance acceptable for further analysis to continue remains somewhat unclear in the literature (cf. Millsap & Kwok, 2004). Several recommendations have been given ranging from ensuring at least two items (including the referent item) are invariant over time (Byrne et al., 1989; Steenkamp & Baumgartner, 1998) to accepting scales as meeting an acceptable level of equivalence only when the majority of items are invariant (Cheung & Lau, 2012). The partial

scalar invariance model reported in this analysis meets the criteria of both of these recommendations. Having met the assumptions of full configural and metric invariance along with partial scalar invariance, it was concluded that the concepts of reliance and disclosure have sufficiently stable properties over time and were suitable for longitudinal data analysis.

## **6.7 Latent Growth Modelling**

This section of the results chapter will provide an overview of the structure of a latent growth model (LGM) and will discuss the advantages of latent growth modelling in comparison to alternative methods of longitudinal data analysis. In addition, the options available to researchers when specifying a LGM will be explored.

Within the structural equation modelling framework, latent growth modelling was first operationalised by McArdle (1988) and Meredith and Tisak (1990). Since that time, its popularity as a longitudinal analysis tool has grown as it allows researchers the flexibility to examine the functional shape of change in a variable over time, inter and intra-individual differences in change and to investigate the variables impacting that change. Latent growth modelling involves the creation of two new latent variables that represent the starting point of a variable, usually known as the initial status or intercept, and growth over time, typically referred to as the slope. Together, these two latent factors represent change and are defined by specifying factor loadings onto the observed variable at each time point (Preacher et al., 2008). For instance, in this study a LGM of disclosure involves specifying factor loadings onto disclosure as measured at Time 1, 2, 3 and 4 for both the initial status and slope variables. Typically, factor loadings linking observed variables to the initial status

factor are constrained to 1 and the loadings on the slope factor are chosen by the researcher depending on the form or trajectory of change being investigated. The typical structure of a LGM can be seen in Figure 6.3 (Section 6.8), factor loadings in this figure are set to represent a linear growth pattern based on the design of this study.

Every LGM involves the estimation of six parameters: initial status factor mean, slope factor mean, initial status variance, slope variance, covariance of the initial status and slope, and residual variance (Preacher et al., 2008). Factor mean values for initial status and slope estimate average starting points and rates of growth for the sample; a high initial status mean indicates that the group reports high initial levels for the variable of interest, while a significant and positive slope factor mean implies a positive growth trajectory (Hancock & Lawrence, 2006). Variance estimates for the initial status and slope provide an indication of the diversity of starting points and rates of change across the sample (Hancock & Lawrence, 2006). The covariance amongst these latent factors represents the extent to which an individual participant's initial level of the variable is related to their rate of change over time. For example, in this study the covariance of initial status and slope indicates whether individuals who report high initial trust intentions show a greater or lesser rate of change in trust intentions across their first three months in an organisation. Finally, residual variance is estimated based on the variance in measurement error at each occasion.

### **6.7.1 Advantages of LGM**

Alternative methods of analysing longitudinal data including ANOVA and time series models were discussed in the methodology chapter. Limitations of these

approaches included a focus on group level means with no capacity for the study of between person differences (Duncan et al., 1996), and an inability to test for invariance violations or to account for measurement error (Chan, 2003). The handful of applications of LGM in the organisational literature clearly demonstrates the improved ability of LGM to offer insight from longitudinal data (Williams, Edwards, & Vandenberg, 2003). Using LGMs to model change over time is associated with a number of advantages and benefits. In particular, LGM provides a method of utilising a far greater amount of available information to model change than traditional methods, as it examines changes in variances, covariances and mean values simultaneously (Hancock & Lawrence, 2006). As LGM is an application of SEM, it is associated with all of the traditional SEM benefits, including improved ability to deal with measurement error and missing data and the availability of a range of model fit statistics to assess and compare the suitability of alternative models (Preacher et al., 2008). In addition, LGM permits the creation of complex models where the latent variables of initial status and slope can be used as independent, dependent or mediator variables allowing researchers to investigate between person differences in within person change over time (Chan, 1998). Preacher et al. (2008) note that this flexibility provides an opportunity to incorporate nomothetic (group or mean trends) and ideographic (individual differences) views of changes over time allowing researchers insight from both perspectives. Covariates can be added to the model as time invariant (e.g. demographic or personality variables that are not expected to change over time) or time varying variables. It is also possible for researchers to specify any necessary correlations amongst residuals over time and to leave some time intervals undefined in their model to allow the LGM to estimate the best fit for a growth curve in their population (Ployhart & Vandenberg, 2010). Finally, the nature of LGM

allows researchers to separate alpha change from beta and gamma change through measurement invariance testing thus ensuring longitudinal validity as explored in Section 6.6.

### **6.7.2 Specifying Alternative LGMs**

When using a LGM approach, researchers can model change over time in a variety of ways. This section will consider three important considerations: the coding of time, the functional form of change and the residual structure. Before building a latent growth model, researchers must consider the role that time plays in the expected growth of their variable. This is relevant in both the design of data collection to cover the time frame of interest to the researcher, the spacing of data collection waves, and the coding of time within the model itself (Preacher et al., 2008). The metric used to represent time in the LGM has an important impact on the interpretability of the results (Biesanz, Deeb-Sossa, Papdakis, Bollen, & Curran, 2004). Singer and Willett (2003) discuss a variety of coding strategies for modelling time, the most straightforward of which is coding responses according to the wave of data collection. Time is defined in the model through the factor loadings assigned to the slope latent variable. In a linear change model, researchers typically set the factor loadings of the slope latent variable to begin at zero for the first measurement occasion and to increase linearly according to the spacing of measurement intervals. If four measurement occasions are spaced equally a simple 0, 1, 2, 3 pattern can be used. Alternatively, uneven measurement occasions can be reflected in the scaling of time within the model. The position of the intercept or initial status latent variable is also determined using these four factor loadings. For instance, in Figure 6.3 the initial status of the variable is set at Time 1 by fixing the first two factor loadings at 0 and 1.

Theorists recommend that the researcher choose the zero point of their LGM based on the period of time which is most pertinent to the research questions being addressed (Preacher et al., 2008).

LGMs also offer a researcher options with regards to the shape or form they wish to use in modelling the stability or growth of a variable. The shape of change in a LGM can be controlled by adjusting the factor loadings related to the latent slope factor. Linear change represents a situation where the variable of interest increases equally across equal time periods resulting in a straight line to represent the form of change. In contrast, optimal models of change can be used to represent variables that follow a less steady growth trajectory for example variables which change more rapidly during certain time periods in comparison to others. The form of an optimal model can be specified a priori if theory suggests a specific growth trajectory or loadings can be left to be estimated by the model (Hancock & Lawrence, 2006). In a LGM with four data collection waves, an optimal model contains two fixed factor loadings on the slope variable and two which are freely estimated. Optimal models where certain factor loadings are freely estimated can be compared to the linear alternative using the LRT as they represented hierarchical or nested models (linear nested within optimal; Bentein, Vandenberg, Vandenberghe, & Stinglhamber, 2005; Hancock & Lawrence, 2006).

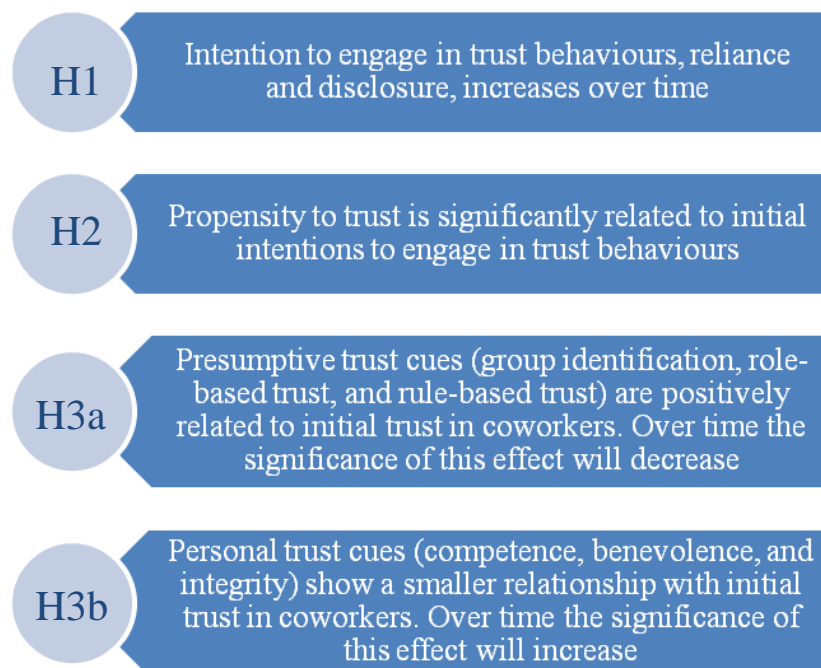
Finally, options exist for researchers in modelling the residual structure of change models. Specifically, residuals can be modelled as homoscedastic or heteroscedastic (Willett & Sayer, 1994). A homoscedastic residual structure is used to model change where residuals are constrained to be equal across waves of measurement. For example, the residual of reliance at Time 1 is constrained to be

equal to the residual of reliance at Time 2, 3 and 4. On the other hand, where residuals are specified as heteroscedastic the assumption of homogenous residuals is relaxed and residuals are freely estimated over time. A combination of form and residual structure options results in four alternative models which should be compared during growth curve modelling: linear heteroscedastic, linear homoscedastic, optimal heteroscedastic, optimal homoscedastic (e.g. Bentein et al., 2005; Lance et al., 2000a).

## 6.8 Hypothesis Testing

Figure 6.2 presents a summary of the research hypotheses discussed and proposed in Chapter 4. This section will present the analysis and results of these hypotheses.

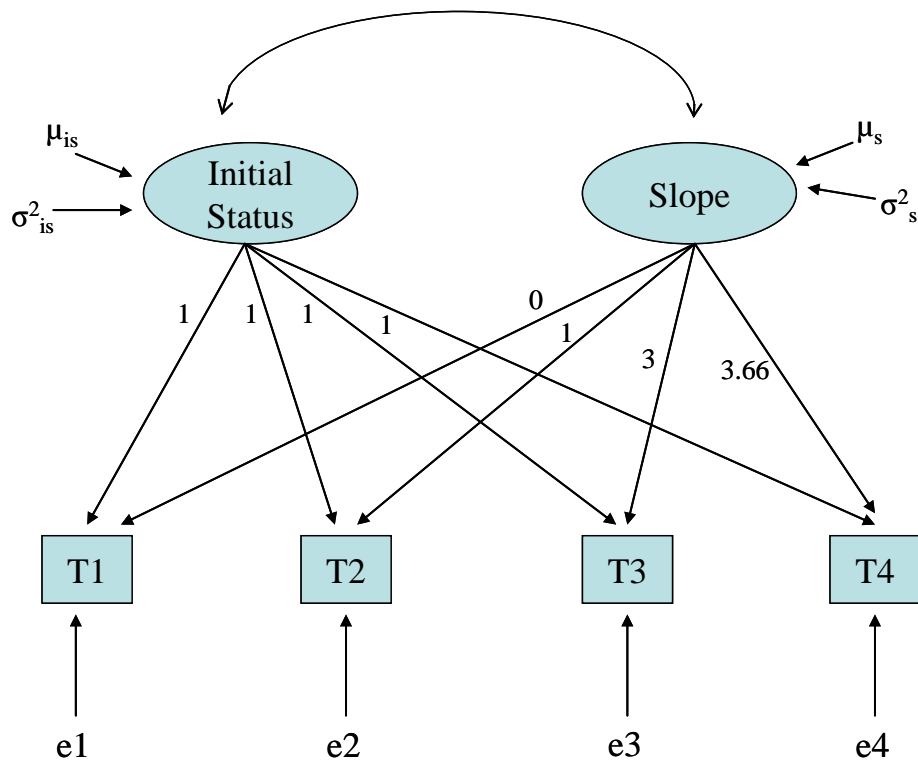
**Figure 6.2 Research Hypotheses**





As discussed in Chapter 5, a latent growth modelling approach was used to test the research hypotheses. First, longitudinal change in the two sub factors of trust, reliance and disclosure, were modelled using univariate latent growth modelling. Four latent growth models were fitted to each variable to assess the structure of the factor residuals and to determine whether change in trust is linear or non-linear. Linear change was modelled by fixing the change factor loadings in the model equal to 0, 1, 3, 3.66 in line with recommendations of Lance and colleagues (Lance et al., 2000b). The uneven increases in factor loadings are calculated to reflect the unevenly spaced measurement occasions used in data collection where an increase of one represents an interval of three weeks. The structure of this linear LGM is presented in Figure 6.3.

**Figure 6.3. Linear Latent Growth Model**

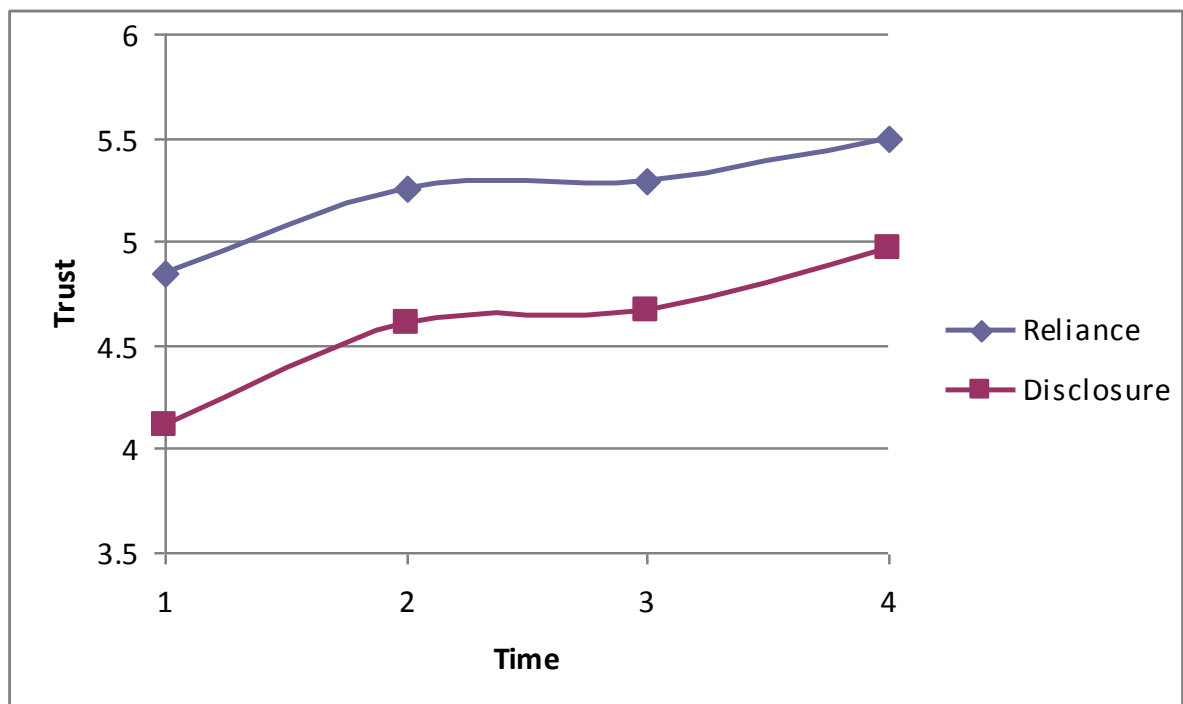


Non-linear or optimal change was modelled by fixing the first two change factor loadings (to 0 and 1 as before) and leaving the second two free to be estimated by MPlus. For both linear and optimal models, nested models, where the residual variances were freely estimated (heteroscedastic), were compared to those where the residuals were constrained to be equal (homoscedastic; Willett & Sayer, 1994). Table 6.5 displays the results of the eight univariate models. Results indicated that the optimal change function significantly improved model fit in comparison to the linear model for both reliance and disclosure. Constraining the residual variances resulted in a poorer model fit for reliance. Consequently, an optimal heteroscedastic model ( $\chi^2(3) = 10.41, p < .05, CFI = .96, RMSEA = .11, SRMR = .14$ ) was accepted as the most accurate representation of change in reliance over time. When homoscedastic residuals were added to the optimal disclosure model a small but non significant increase in the chi square index was observed. As constraining the residual variances provides a more parsimonious model structure, an optimal homoscedastic model ( $\chi^2(6) = 14.76, p < .05, CFI = .95, RMSEA = .09, SRMR = .09$ ) of disclosure was retained.

Figure 6.4 displays the mean latent growth curves for reliance and disclosure. Results support Hypothesis 1 indicating that levels of reliance and disclosure increase over time. This pattern of non-linear growth could be referred to as following a learning curve or negatively accelerating change (Ployhart & Vandenberg, 2010). As shown in Table 6.6, the slope factor mean for reliance and disclosure was positive and statistically significant, indicating that participants' intention to rely on and disclose information to their coworkers increased over time. The results also indicate that the rate of growth was faster during the initial period after joining the organisation as participants first began to gather information about their new colleagues. In addition

to the increase in trust levels proposed by Hypothesis 1, these results offer a number of interesting findings with regards to the pattern of trust development in new relationships. A statistically significant factor variance estimate for both initial status and slope of reliance and disclosure indicates that some individuals report higher intentions to engage in reliance and disclosure behaviours from the first day of their new job. A significant factor variance estimate also exists for the slope of both trust intentions suggesting that some newcomers' intentions to engage in reliance and disclosure increased at faster rates than others. Furthermore, there is a negative and statistically significant relationship between the initial status and slope of both variables suggesting that individuals with higher initial levels of trust intention showed less change over time than those who began with lower levels.

**Figure 6.4. Mean Latent Growth Curves for Reliance and Disclosure**



**Table 6.5. Tests of Alternative Univariate LGM Specifications**

Model	$\chi^2$	df	CFI	RMSEA	SRMR	$\Delta \chi^2$	$\Delta$ df
1. Reliance Linear Heteroscedastic	36.13**	5	.84	.18	.11		
2. Reliance Linear Homoscedastic	60.12**	8	.74	.18	.28		
Model 1 vrs Model 2						23.99**	3
3. Reliance Optimal Heteroscedastic <sup>a</sup>	10.41*	3	.96	.11	.14		
Model 1 vrs Model 3						25.72*	2
4. Reliance Optimal Homoscedastic	19.04*	6	.93	.11	.23		
Model 3 vrs Model 4						8.63*	3
5. Disclosure Linear Heteroscedastic	29.00**	5	.85	.16	.07		
6. Disclosure Linear Homoscedastic	38.07**	8	.81	.14	.14		
Model 5 vrs Model 6						9.07*	3
7. Disclosure Optimal Heteroscedastic	10.20*	3	.95	.11	.06		
Model 5 vrs Model 7						18.8**	2
8. Disclosure Optimal Homoscedastic <sup>a</sup>	14.76*	6	.95	.09	.09		
Model 7 vrs Model 8						4.56	3

<sup>a</sup> Retained model

\*\* $p < .001$  \* $p < .05$

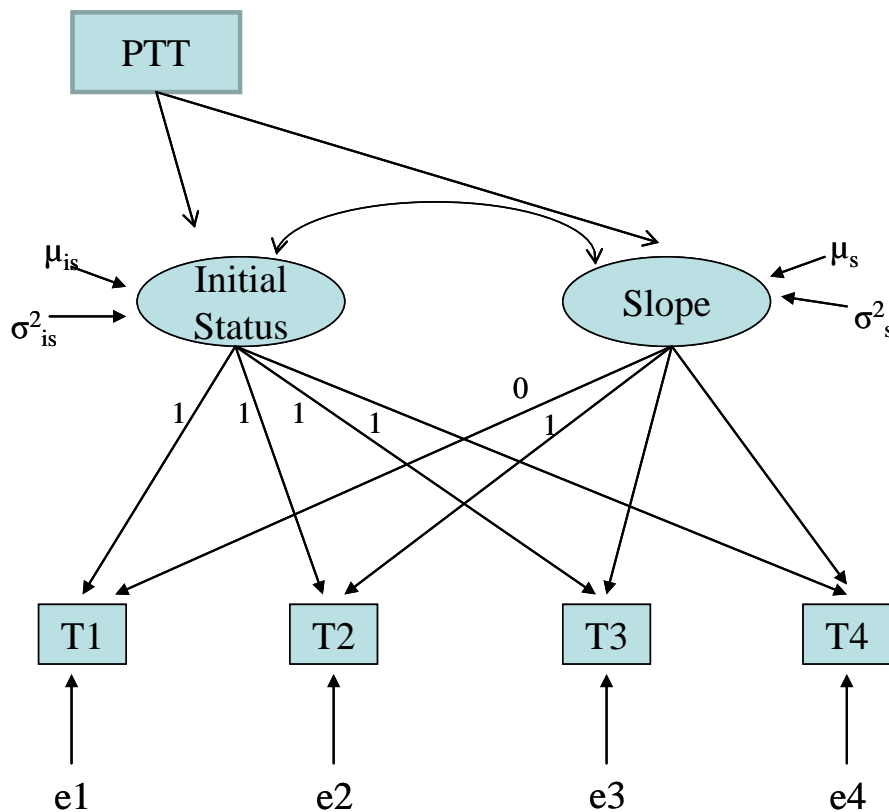
**Table 6.6. Univariate LGM Parameter Estimates**

	Reliance (unstandardised)	Reliance (standardised)	Disclosure (unstandardised)	Disclosure (standardised)
SL Mean	.36**	.72**	.49**	1.0**
IS Mean	4.56**	6.85**	4.11**	5.76**
SL Variance	.24*	-	.24*	-
IS Variance	.50**	-	.51**	-
IS with SL	-.23*	-.64**	-.15*	-.44**

\*\*  $p < .001$ , \*  $p < .05$

Hypothesis 2 proposed that propensity to trust is related to initial status of trust intentions but not to changes in reliance and disclosure over time. This was tested by regressing the initial status and slope of reliance and disclosure on propensity to trust as displayed in Figure 6.5. Augmenting the model with propensity to trust resulted in good model fit (Reliance -  $\chi^2(5) = 10.49$ , CFI = .97, RMSEA = .08, SRMR = .12; Disclosure -  $\chi^2(8) = 15.95$ ,  $p < .05$ , CFI = .95, RMSEA = .07, SRMR = .08). Results of the model indicate that propensity to trust is significantly related to initial status in reliance ( $\beta = .23$ ,  $p < .05$ ) and disclosure ( $\beta = .21$ ,  $p < .05$ ). Propensity to trust is unrelated to the rate of change in either variable. Overall, these results provide support for Hypothesis 2.

**Figure 6.5. Optimal LGM Augmented with PTT Predictor**



To test Hypothesis 3a and 3b, eight augmented latent growth models (4 reliance, 4 disclosure) were created. These models allowed the structural relationships between each of the trust cues and levels of reliance and disclosure to be estimated at different points in the latent growth curve. Biesanz et al. (2004) recommend that the origin or zero point for time in a latent growth model should be coded at the point in the model where the researcher would like to examine effects and relationships. Preacher et al. (2008) agree that the factor loading of the time point of primary interest to the researcher should be fixed at zero. At this stage of the analysis, four augmented models were generated for each variable (reliance and disclosure) and the coding of time was changed in each model to reflect the stage of socialisation of most interest. For instance, to assess the structural relationships of trust cues with trust at Time 3, the first two change factor loadings were freely estimated while the second two were set at 0 and 1. Next each of the six trust cues were regressed onto the intercept of the latent growth models to test which cues were important at each stage of the coworker relationships, each model controlled for the impact of propensity to trust. Results of the analyses are presented in Table 6.7. Hypotheses 3a and 3b, which proposed that the impact of presumptive trust cues would decrease over time while the impact of personal trust cues would increase, are not supported by the data. However, although the hypothesised presumptive – personal shift is not apparent from the data, it is clear that different trust cues are important at different times and that different trust cues predict the two sub factors of intention to engage in trust behaviour. Specifically, benevolence appears to be an important cue for decisions related to disclosure intentions regardless of the length of a relationship. Similarly, at each time point competence shows a strong relationship with newcomer intentions to rely on their coworkers. Contrary to Hypothesis 3, rule-

based trust had a significant impact on reliance intentions only at later time points. Furthermore, although group identification was important for initial reliance decisions, it also had a significant impact on reliance and disclosure intentions at the end of the three month socialisation period. Potential interpretations of these patterns will be addressed in the discussion section.

**Table 6.7. Influence of Trust Cues on Trust Intentions at Each Time Point**

<b>Reliance</b>				
<b>Trust Cue</b>	<b>Time 1</b>	<b>Time 2</b>	<b>Time 3</b>	<b>Time 4</b>
Competence	.45**	.54**	.38**	.38**
Benevolence	-.13	.12	.03	.11
Integrity	.13	.05	.19*	-.01
Group Identification	.19*	.07	.01	.26**
Role-based trust	.15	.02	-.01	.06
Rule-based trust	-.02	-.02	.17**	.20**
<b>Disclosure</b>				
<b>Trust Cue</b>	<b>Time 1</b>	<b>Time 2</b>	<b>Time 3</b>	<b>Time 4</b>
Competence	.01	.19	.14	.15
Benevolence	.43**	.49**	.37**	.54**
Integrity	.13	.04	.04	-.22
Group Identification	.05	-.07	.07	.20*
Role-based trust	.07	-.16	.06	.13
Rule-based trust	.11	.09	.16	.08

Standardised beta values are shown, \*\*  $p < .001$ , \*  $p < .05$

## 6.9 Chapter Summary

The purpose of this chapter was to present the steps undertaken to analyse the data and test the research hypotheses. The chapter began with an introduction to the concept of model estimation and fit and a discussion of the confirmatory factor analysis technique. The factor structure of both the trust intentions measures and the measurement model was then assessed and confirmed. In addition, the measurement invariance of trust intentions was investigated before moving on to hypothesis testing.

The hypotheses were tested using a latent growth modelling approach. The results provided support for Hypothesis 1 and Hypothesis 2. Tests of Hypothesis 3a and 3b did not support the expected shift from presumptive to personal cues; however, this analysis did reveal changes in the use of trust cues over time and across trust intentions. These findings will be discussed in detail in the next chapter.



## **Chapter Seven**

### **Discussion and Conclusions**

## **Discussion and Conclusions**

### **7.1 Introduction**

The overall objective of this study was to provide an in-depth examination of trust development between coworkers. Firstly, the study investigated the shape of change in trust intentions over a three month period of employee socialisation. Drawing on existing trust theory, it was proposed that newcomer intentions to engage in trust behaviours would increase as coworker relationships matured. Secondly, this research examined the impact of individual differences in propensity to trust on trust development. It was expected that individuals with a high propensity to trust would report higher initial trust intentions and that trust propensity would not be related to changes in trust over time. Thirdly, this research investigated which trust cues inform trust decisions at different stages of a relationship. It was hypothesised that there would be a shift from a reliance on presumptive trust cues (role-based trust, rule-based trust and group identification) to the use of personal trust cues (competence, benevolence and integrity) as coworker relationships progressed. In examining these hypotheses, this research made a number of key findings and contributions to the theory and literature in the field. This chapter will begin with a discussion of the study's findings followed by an overview of the contributions of the research and implications for research and practice. Finally, this chapter will present the limitations of the study and recommendations for future research.

### **7.2 Research Findings**

The results of this research, presented in Chapter 6, provide interesting insight into the process of trust development between coworkers. This section outlines and discusses the results of each hypothesis.

### **7.2.1 Change in Trust Levels Over Time**

Hypothesis 1 proposed that trust intentions would increase over time as coworkers built up a history of interactions. This hypothesis was supported by the results. The findings show that longitudinal change in reliance and disclosure intentions is best represented by an optimal change model, with faster rates of growth at the beginning of a relationship when new employees are just beginning to get to know their coworkers. The rate of change in both reliance and disclosure slowed over time. Previous theoretical discussion of initial trust in relationships supports this pattern of development. Initial trust judgements are often based on cognitive cues from the environment, perceptions of control and first impressions of the trustee, allowing them to be formed much more quickly than more stable knowledge-based trust beliefs (McKnight et al., 1998). McKnight et al. (1998) suggest that these initial trust levels are likely to be relatively robust as confirmation bias (Watson, 1960) allows individuals to selectively attend to coworker behaviours particularly in situations where there is low perceived risk. In this context, where individuals were asked to report on trust in peers, perceptions of risk may be lower than in employee-supervisor relationships. The trajectory of change in trust intentions is at its most stable between times 2 and 3. Rousseau et al.'s (1998) depiction of trust development is consistent with this pattern and suggests that after a period of trust building, a phase of stability in trust levels is likely.

This pattern of change is also in line with the development of other employee variables during socialisation. Employee attitudes and expectations tend to stabilise as a newcomer is socialised into the organisation and a decreased rate of change in trust intentions may reflect a shift from the encounter to the adjustment phase of

socialisation (Chen & Klimoski, 2003). Saks and Ashforth (1997b, p.258) agree that “rapid change followed by relative stability” characterises the growth pattern of many processes during socialisation and especially those related to interactions within a group. Recent work by Solinger and colleagues confirms that change trajectories during socialisation are likely to transverse several periods, with differing rates of growth, stability or decline (Solinger et al., 2013). Self-regulation of willingness to be vulnerable in workplace relationships involves vigilant monitoring of coworkers and the environment over time which may undermine and distract from steady changes in trust intentions (Kanfer & Ackerman, 1989). It is possible that the levelling off of change between Time 2 and 3 reflects this cognitive overload. Alternatively, this period of relative stability may be a contextual issue. As mentioned in Chapter 5, the spacing of data collection waves was influenced by logistical issues related to newcomer work experience periods. Midway through their formal socialisation period newcomers were assigned to a manager within their department for two weeks work experience. These work experience assignments were staggered and took place between Time 2 and Time 3 so it is possible that the decreased rate of change reflects a decrease in the density of interactions within groups.

The longitudinal nature of this study also reveals several other characteristics of change in trust intentions over time. Specifically, initial levels of reliance and disclosure are negatively and significantly related to change in these variables over time. Participants who reported higher initial levels of reliance and disclosure intentions showed less change in trust intentions over time than those who had lower trust intentions on their first day of work. Furthermore, the results indicate that there is significant variance in the starting point and rate of change of trust intentions. This

variance suggests that individual differences between newcomers play a role in driving intentions to engage in trust behaviour.

### **7.2.2 Individual Differences in Trust Development**

The second hypothesis relates to the role of stable individual propensity to trust on trust intentions over time. The findings support the hypothesis that propensity to trust is positively related to the initial status of trust intentions but not to changes in trust over time. These results are consistent with cross-sectional work in the area. Typically, empirical research has shown that propensity to trust has a relatively consistent relationship with trust (Colquitt et al., 2007) and that this relationship is more important when personal information about the trustee is less salient (Grant & Sumanth, 2009). This study provides longitudinal support for this contention and is the first study to do so for Gillespie's (2003) conceptualisation of trust as a behavioural intention. The pattern of results indicates that the expected influence of propensity to trust holds across both reliance and disclosure intentions. Overall, this research suggests that propensity to trust is an important influence during initial new joiner meetings but does not have an ongoing impact on coworker relationships during socialisation once additional trust cues become plentiful.

### **7.2.3 The Role of Trust Cues**

Contrary to Hypothesis 3a and 3b, a shift from presumptive to personal trust cues was not observed in this context. In fact findings indicate that while the importance of certain presumptive trust cues vary over time, the impact of personal cues appear more stable. The results suggest that perceptions of coworker competence and benevolence are used as a basis for trusting behaviours, reliance and

disclosure respectively, regardless of the relationship stage. The importance of personal trust cues so early in the trusting relationship indicates that new joiners are making conscious or unconscious evaluations of coworker trustworthiness from the moment they meet. Experimental research on initial impressions supports this, suggesting that within milliseconds of a first encounter, individuals can form impressions of trustworthiness facets based on trustee facial features (e.g. Willis & Todorov, 2006). However, traditional trust theory has suggested that perceptions of trustworthiness build up over a history of interactions (Mayer et al., 1995) and that benevolence perceptions in particular may take time to develop (Schoorman et al., 2007). The findings in this study indicate that not only do newcomers have distinct perceptions of trustworthiness from the first day of a new relationship but they are sufficiently confident in these competence and benevolence judgements to base their decisions about trusting behaviour on them.

In this study, the personal trust cue of benevolence was related to disclosure across all four time points. This positive relationship is potentially a consequence of the affective nature of both concepts. Although the original distinction between affective and cognitive trust was drawn by McAllister (1995), theorists have highlighted similarities between affective trust, benevolence and Gillespie's (2003) disclosure dimension (Alexopoulos & Buckley, 2013; Colquitt, LePine, Piccolo, Zapata, & Rich, 2012). Colquitt et al. (2012) suggest that both benevolence and affective forms of trust are based on perceptions of care and support in the relationship while competence and cognitive trust focus on abilities and skills. Chen et al. (2011) consider the levels of affect associated with personal trust cues and suggest that benevolence is associated with strong positive affect as it is based on assessment of the trustee's personal orientation towards the trustor, integrity comes

next as it is based on perceived shared values and norms, and ability is presented as being the least affective as perceptions of ability are determined by a purely cognitive assessment of performance (Chen et al., 2011). In line with this, a significant relationship was observed between competence and reliance across all four time points. This result is also consistent with recent work by Alexopoulos and Buckley (2013) which posits that both competence and reliance represent professional, cognitive forms of trust perception and behavioural intention. McAllister's (1995) original classification of affective and cognitive trust appears to suggest that affective trust judgements of benevolence follow cognitive assessments of competence or integrity (Dietz & Den Hartog, 2006). However, Dietz and Den Hartog (2006) argue that this is impractical and theoretically unsound given the likelihood that individuals would evaluate trustee's benevolent motives as soon as possible. These results offer some support to their argument; participants in this sample appear to use affective and cognitive information about the trustees from the very beginning of their relationships. Studies of simulated negotiations agree that cognitive trust does not necessarily precede the development of affective trust (Olekalns & Smith, 2005). Indeed, affective and cognitive information can complement each other to produce more positive workplace outcomes (Bledow, Frese, Anderson, Erez, & Farr, 2009). Seo, Barrett and Bartunek (2004) propose that affect can influence behaviour directly or through one of three distinct cognitive paths: expectancy judgments, valence judgments and progress judgments. These three cognitive judgments impact perceptions of progress towards a goal as well as perceptions of the probability and attractiveness of expected outcomes. Trustor perceptions of the probability and attractiveness of trust behaviours are likely to be central to the development of interpersonal trust. Recent cross-sectional research supports an interaction between

affect and cognition in a trust context suggesting that as relationships mature, affective and cognitive forms of trust become mutually reinforcing (Alexopoulos & Buckley, 2013).

Interestingly, in this context integrity appears to be a less important cue for trust decisions than the other personal trust variables. Findings indicate that integrity is significantly related to reliance only at one time point, in the third month of interaction. This result is surprising and contrary to previous research with student virtual teams, which found that integrity and competence were influential antecedents to initial trust while benevolence became more important over time (Jarvenpaa et al., 1998). In the context of this research, it may be that highly formalised socialisation activities prevented new joiners from observing their coworkers in situations where their integrity could be tested, thus delaying the development of integrity perceptions or undermining participant confidence in their judgment of coworker integrity. Moreover, as the focus of this study is fellow newcomers, access to third party information to substitute for any lack of personal trust cue observation is likely to be extremely limited. Alternatively, it is possible that these findings reflect the nature of the trust referent used in this study. Colquitt et al. (2007) report that the trust referent used in a study moderates the relationship between trust antecedents and trust. Their analysis demonstrates that the meta-analytic correlation between trust and integrity is substantially higher for trust in leader ( $r = .67$ ) than for trust in coworker ( $r = .13$ ). Moreover, where the focus of trust is a group rather than an individual, integrity cues may be more time consuming or difficult for individuals to collect. In the course of day to day interactions with their socialisation group, the moral values of group members may not be particularly salient. In contrast, within this social, training context, information on group member ability and job-related knowledge or skill



(competence cues) and attitudes towards looking out for and helping colleagues (benevolence cues) would be more readily available. Furthermore, the organisational environment in which the groups of coworkers exist may have reduced the importance of integrity perceptions. This possibility is in keeping with previous research which shows that the relationship between integrity and trust in a group is stronger when the trustor perceives themselves as being more vulnerable (Lapidot, Kark, & Shamir, 2007) and when work tasks are characterised by high levels of danger and unpredictability (Colquitt et al., 2011). The context of a professional services accountancy firm is not typically associated with either danger or unpredictability, and, in a formal socialisation context, it is possible that newcomers felt a certain level of protection from the potential immoral actions of their colleagues.

Overall, the findings relating to presumptive trust cues present a less straightforward pattern of influence. In this context, role-based trust was not significantly related to either reliance or disclosure intentions at any time period. This finding is puzzling as it contradicts existing initial trust theory which suggests that category-based judgements of individuals who occupy a particular role play a central part in forming initial trust judgements (McKnight et al., 1998; Meyerson et al., 1996). Previous research in an Israeli military setting has provided support for the relationship between role-based trust and initial trust in leaders (Shamir & Lapidot, 2003). However, in this newcomer environment where the vast majority of individuals are embarking on a new career path, perhaps participants have not yet developed a consistent category for the characteristics of their peers. While the role of an accountant is likely to be familiar to all individuals, particularly those who have chosen to train in the profession, the focus in this instance was on the role of *trainee* accountants. Respondents may have had limited previous opportunity to interact with

incumbents of the trainee accountant role and are thus less likely to have developed a concrete schema for the characteristics of this group. Alternatively, the impact of role-based trust may be influenced by the self-referential nature of this judgement. Social cognition theories suggest that forming a perception of a group of which the perceiver is a member can be biased by insufficient cognitive capacity and motivated evaluations (Hamilton & Sherman, 1996). In a research setting where the trustee's role portrays them as a member of an outgroup (e.g. a manager rather than a peer) a different pattern of results might be observed.

It was predicted that group identification would act as a presumptive trust cue that would be important to early newcomer trust intentions but would wane in significance as more personal cues became available. However, findings indicate that group identification had a significant relationship with early reliance intentions but not disclosure. This is surprising given that previous theorists have posited that social identification is likely to provide trustors with affective information (Nooteboom, 2003), and disclosure intentions are typically seen as being more affect-based than reliance intentions. It may be that a lack of certainty regarding early group identification leaves newcomers feeling more personally vulnerable when it comes to decisions to disclose personal information in comparison to relying on colleagues professionally. Alexopoulos and Buckley (2013) suggest that disclosing sensitive information to colleagues with whom one has little shared experience is likely to result in negative consequences unless it is clear that both parties share clear norms for disclosure. Empirical studies agree that subjective norms and an awareness of the expectations of other parties are strong predictors of intentions to share knowledge in workplace relationships (Brock, Zmud, Kim, & Lee, 2005). Although these norms and shared expectations are likely to arise from high group identification, they are

unlikely to be salient on an individual's first day at work. In contrast, Alexopoulos and Buckley (2013) identify reliance intentions as a more professional, task related form of trust that is more likely to be predicted by non-personal cues such as identification. Group identification is thought to be a particularly important predictor of task related behaviours and motivations when the social identity of that group is salient (van Knippenberg, 2000). On their first day in this organisation the identity of newcomers as members of their socialisation group was made salient as they were assigned to the group immediately, information regarding the socialisation schedule was group-specific and instructions were distributed on a group by group basis.

Additionally, and contrary to Hypothesis 3, group identification showed a positive and significant relationship with both reliance and disclosure intentions at the end of the three month period. Although group identification has been proposed as a component of presumptive trust (Kramer & Lewicki, 2010), earlier theoretical work suggests that identification is a component of more mature trust relationships and is a developmental process (Ashforth, Harrison, & Corley, 2008). As discussed in Chapter 4, Lewicki and Bunker (1996) proposed a transformational model of trust which posits that trust is based on identification only once the trustor has internalised the values and preferences of a trustee. These findings appear to support their proposition that trust develops from a basis in knowledge (as informed by repeated interaction and perceptions of the trustee) and then progresses towards an identification-based trust relationship. Dietz and Den Hartog (2006) classify identification-based trust as a more complete version of trust which reflects a level of quality in the relationship rather than repeated observation of predictability. The results of this study appear to indicate that towards the end of the socialisation process, as trust levels increased, newcomers were moving towards this sense of

converging interests and values. Although identity-based trust has been a component of a number of prominent trust models, the relationship between social identification and trust has received limited empirical attention. Avenues for future research in this area will be explored in section 7.4.

Finally, support was not found for the proposal that rule-based trust would be significantly related to initial trust intentions but not to trust intentions as the relationship matured. In fact, rule-based trust was not related to disclosure intentions at any time point and was significantly related to reliance only at Time 3 and 4. Interestingly, rule-based trust was the only cue that decreased over time. Additional latent growth analysis suggests that this decline is significant and functionally linear. It may be that rule-based trust is important only when it falls below a certain threshold. Gillespie and Dietz (2009) suggest that certain system-based trust information serves to eliminate distrust by constraining discretionary behaviour. Once perceptions of rule-based trust fall below a certain level, it is possible that new joiners no longer see the organisational system as constraining untrustworthy behaviour but instead as encouraging trust among coworkers. Alternatively, the results of this study may again be influenced by the socialisation context where it is possible that respondents are less certain of their own and others' understanding of the organisational rules. It is known from psychological contract theory that new joiner perceptions of what they can expect from an organisation are initially vague and are formed as a result of interacting with the organisation and existing organisational members (Rousseau, 2001). Rule-based trust may only impact intention to engage in trusting behaviours when newcomers feel a greater level of clarity and confidence in their expectations for organisation level structural assurance. In addition, theory suggests that rule-based trust is formed on the basis of a common understanding of a

system of rules and appropriate behaviour within an organisation (Kramer, 1999). In this environment, the perception that fellow coworkers possess a common understanding of organisational rules for behaviour may arise only as individuals perceive their newcomer cohort as nearing the completion of their formalised socialisation process.

### **7.3 Research Contributions**

This research offers a number of valuable contributions to the trust literature. In particular, the longitudinal design of this study provides a more fine-grained understanding of trust development. The study contributes to knowledge of trust measurement by providing further validation of the Behavioural Trust Inventory (Gillespie, 2003), especially in relation to longitudinal measurement invariance. This research also clarifies understanding of the relative importance of six key trust cues over time and across trust behaviours. Furthermore, this research offers a contextual view of trust development in new peer relationships within the socialisation period. Improving our understanding of context is vital to moving the field of organisational behaviour forward (Rousseau & Fried, 2001). Finally, this research makes a number of practical contributions for organisations and managers in terms of building effective new work relationships and successfully socialising new employees. These contributions are discussed in detail below.

#### **7.3.1 Longitudinal Trust Development**

This research demonstrates for the first time, the pattern of reliance and disclosure based trust development during the socialisation process. Research in the area of trust development has thus far been largely theoretical and the lack of

empirical work has left a number of critical gaps in our understanding of trust as something which happens over time rather than existing in a snapshot of a relationship. Calls for longitudinal trust research are common (e.g. Lewicki et al., 2006; Schoorman et al., 2007) and, to date, only a small body of longitudinal trust literature exists. Longitudinal empirical research in the field has unfortunately tended to employ time-lagged designs (e.g. Colquitt et al., 2011; Deutsch-Salamon & Robinson, 2008) or only two waves of trust measurement for a particular referent (Mayer et al., 2011; Robinson, 1996; Shamir & Lapidot, 2003). However, understanding true change in a variable over time requires repeated measurement of the variable at a minimum of three time points (Ployhart & Vandenberg, 2010). Research designs which do not incorporate three or more repeated observations capture only static representations of a variable (cross-sectional and time-lagged designs), fail to capture the form of change or to differentiate true change from issues of measurement error (two wave designs; Ployhart & Vandenberg, 2010). To this author's knowledge, this research represents the first genuinely longitudinal study examining intentions to engage in trust behaviour. Furthermore, truly longitudinal studies of related trust concepts (affective and cognitive trust, trustworthiness, cooperation) have tended to use student samples and fail to distinguish actual changes in trust from changes in the conceptualisation or measurement of trust (e.g. Serva et al., 2005; Webber, 2008; Wilson et al., 2006). A recent field study of longitudinal affective and cognitive trust was presented by Schaubroeck et al. (2013) with three repeated measures of trust over a period of fourteen weeks. Unfortunately, due to a lack of metric measurement invariance, the authors were unable to establish that changes in reported trust over time were not the result of changes in conceptualisation or measurement of trust, limiting the opportunity for their research to demonstrate the

shape of trust development. In contrast, this study employs a latent growth modelling approach to demonstrate the trajectory of reliance and disclosure intentions as early work relationships develop. Accordingly, these findings offer a unique insight for researchers studying trust development and provide a clear picture of the speed and level of trust changes as newcomers interact with their coworkers.

In modelling trust development across four time points, this research provides evidence to suggest that trust intentions develop in a non-linear configuration where the growth rate changes over time as the relationship matures. This finding contributes detailed empirical evidence of the actual trajectory of trust development in the present context and represents the first step in improving our understanding of trust development in general. Ideally, findings from longitudinal research such as this study can be used to help develop more nuanced process-oriented models of trust development. In addition to illustrating the growth patterns of trust intentions over time, the longitudinal nature of this research and its context during the socialisation period offers insight into early trust processes. As discussed in Chapter 4, early trust theorists (McKnight et al., 1998; Meyerson et al., 1996) maintain that trust building in new relationships occurs swiftly to facilitate immediate cooperative behaviour rather than following a gradual growth trend. Theoretical work focused on early trust has tended to take a unidimensional psychological perspective (Lewicki et al., 2006) and typically implies that trust has a non-zero or moderately high baseline. While early trust theorists, such as McKnight et al. (1998), have argued that trust has a non-zero baseline, the baseline of trust in a field setting has rarely been examined due in part to the difficulty of studying new trust relationships from their very beginning. The findings of this research represent an important contribution to the literature as they provide insight into what is identified by Lewicki et al. (2006) as a central dilemma in

current understanding of trust development processes and demonstrate that newcomers are willing to be vulnerable to coworkers from the first day of their relationship. Although results suggest that reliance intentions in this sample are higher than disclosure intentions, additional analysis reveals that the initial status of both trust intentions is significantly higher than the neutral point on the Likert scale.

This study further contributes to the literature by providing a longitudinal examination of the relationship between individual trust propensity and trust intentions. Researchers recognise that trust has a dispositional aspect which relates to a generalised level of trust irrespective of the referent or context. However, empirical evidence of the impact of trust propensity has been somewhat inconsistent. Meta-analysis suggests that the relationship between propensity to trust and trust is small but positive (Colquitt et al., 2007). This study provides longitudinal evidence to support the proposition that propensity to trust is an important antecedent for initial trust but that it does not impact the development of trust over time. This finding contributes to the literature by supporting previous research which suggests that trust propensity is more influential in contexts where individuals have little information about their trustees (Grant & Sumanth, 2009).

Additional advantages of longitudinal research designs include offering much more insight and prescriptive advice for others researching or working in the context under examination (Ployhart & Ward, 2011), and providing information about the longitudinal validity of concepts of interest. These contributions will be discussed further below.



### **7.3.2 Measurement of Trust Intentions**

The trust literature has often been criticised for inconsistency in how trust is conceptualised and measured in empirical studies. Indeed, reviews of the literature have revealed as many as 129 different measures of trust, many of which are accompanied by limited evidence for validity (McEvily & Tortoriello, 2011). Additionally, theorists have critiqued the fuzziness that surrounds the separation of trust from its antecedents and outcomes, both conceptually and in terms of operationalisation (Gillespie, 2003; 2012; Kramer, 2006; Mayer et al., 1995). This study focuses on Gillespie's (2003) conceptualisation of trust as intentions to engage in trusting behaviours. The Behavioural Trust Inventory (Gillespie, 2003) was developed to capture trust intentions as distinct from trustworthiness, risk-taking or cooperation. This focus allows researchers to operationalise trust as a decision to make oneself vulnerable to the trust referent. Despite the fact that this scale has been identified repeatedly as a measure which demonstrates strong psychometric properties (Dietz & Den Hartog, 2006; McEvily & Tortoriello, 2011), the scale has not yet received a great deal of attention in empirical trust research. Analysis presented in Chapter 6 reaffirms the psychometric properties of the Behavioural Trust Inventory and provides support for Gillespie's (2003) distinction between reliance and disclosure subfactors. In addition, this study develops the reliance-disclosure model of trust by demonstrating that these behaviours have different antecedents in the context of new relationships.

Finally, the longitudinal design of this research allows for the assessment of variance in participant conceptualisations of reliance and disclosure intentions over time. Methodological researchers argue that violations of measurement invariance are

as damaging to research conclusions as violations in internal consistency (Vandenberg & Lance, 2000). When concepts do not demonstrate measurement invariance, researchers cannot compare like with like. In the case of longitudinal research, measurement invariance allows researchers to separate true alpha change from beta and gamma changes. Measurement invariance testing has previously been conducted using McAllister's (1995) scale of cognitive and affective trust (Schaubroeck, et al., 2013) as well as Mayer and Davis's (1999) trustworthiness scale (Wasti, Tan, Brower, & Onder, 2007). However, Wasti and colleagues investigate the measurement invariance of trustworthiness across cultures rather than across time. To the author's knowledge, this is the first longitudinal invariance test of the Behavioural Trust Inventory. This is an important contribution to the literature as it demonstrates that an individual's conceptualisation of trust in coworkers is fully invariant over time at the configural and metric levels. This is particularly interesting given the context of the research. In this socialisation context, where many individuals were starting their first full-time employment, changes in an individual's understanding of what it means to trust a coworker might have been more susceptible to variance than with more tenured, experienced employees. However, even in this context the Behavioural Trust Inventory demonstrated acceptable longitudinal validity. This finding echoes the proposition of previous researchers that Gillespie's (2003) measure represents a psychometrically sound measure of intra-organisational trust.

### **7.3.3 Cues for Trust Development**

The third area in which this study contributes to the trust literature is in the investigation of the relationships between trust cues and trust intentions. This research answers recent calls from trust theorists (e.g. Colquitt et al., 2007; Dietz,

2011; Li, 2012) to clarify the relative importance of a variety of trust cues in trust development. This study contributes to the literature by providing the first empirical investigation of the presumptive – personal trust distinction drawn by Kramer and Lewicki (2010). Previous empirical work has tended to focus on trustee characteristics as the sole source of evidence for trust (Dietz & Den Hartog, 2006). This study extends the existing literature by simultaneously examining the impact of trustor propensity, trustee characteristics and situational influences on trust. The findings discussed above support the contentions of trust theorists (Dietz, 2011; Dietz & Den Hartog, 2006) that multiple sources of evidence for trust can coexist in trust relationships. The longitudinal design of the study revealed that the impact of trust cues on trust development is influenced both by relationship stage, with different cues impacting initial trust than trust in more established relationships, and by the type of trust behaviour in question. This is a considerable contribution to our understanding of the basis on which we trust people. With regards to the current study, the answer to the question ‘on what basis?’ appears to be ‘it depends’. Previous research has demonstrated that the antecedents of trust differ across situational contexts (Colquitt et al., 2011). In a study of trust among fire fighters, Colquitt et al. (2011) demonstrate that the trust cues related to trust in coworkers differ depending on whether the context involved typical or high reliability work tasks. These findings add to that literature by indicating that the trust cues that exert the biggest impact on trust intentions are time dependent and related to the type of behavioural intention. The differences in trust cue relationships for reliance and disclosure supports the arguments of theorists (e.g. Hardin, 1996) who have called on trust researchers to distinguish between levels of trust and the type of trust in question.

This research offers important insights into the theoretical claims of previous researchers. As discussed in Chapter 4, Lewicki and Bunker's (1996) transformation model of trust suggests that the basis and form of trust shifts over time. While the findings of this study support the contention that trust is based on different sources of evidence at different points in a relationship, the pattern of results do not support the specific order suggested by their model. Specifically, Lewicki and Bunker (1996) propose that early trust relationships have a calculative basis characterised by suspicion, fear, high levels of monitoring and fragility. Lewicki and Bunker (1996) suggest that only following a period of interaction do trustors gradually develop knowledge-based trust with an understanding of the trustee's likely responses and a level of confidence in trustee characteristics. Dietz (2004) argues that the threshold where real trust begins lies between these two psychological states. The findings of the current study suggest that participants in this sample bypassed Lewicki and Bunker's (1996) calculative-based trust and began their relationships with real trust based on confident positive expectations of their coworkers. Additionally, early trust literature has tended to draw on a wider range of trust cues as a basis of trusting decisions (e.g. McKnight et al., 1998; Meyerson et al., 1996). This study provides an opportunity to examine the impact of these early or presumptive trust cues alongside the impact of more traditional, personal trust antecedents. Interestingly, the results of this research suggest that while rule based trust and group identification play a role in driving trust in early co-worker relationships, the impact of personal trust cues (benevolence and competence) is both larger in magnitude and more consistent over time.

#### 7.3.4 Context Specific Trust Development

Trust researchers are increasingly aware of the need to study trust in a context specific manner (Colquitt et al., 2011; Schoorman et al., 2007; Williams, 2001). Trust has been studied within and across a variety of levels, many of which have been linked to different antecedents and consequences (Fulmer & Gelfand, 2012). Johns (2006) argues that in order to fully comprehend the broader influences of context on empirical studies, researchers should consider the what, why, who, where and when of research. In contextualising our research, empirical findings can be considered in a more accurate, robust manner and separate studies can be linked together to provide a more holistic perspective (Rousseau & Fried, 2001). Additionally, providing a post hoc examination of contextual details maximises generalisability and provides important information for future meta-analysis (Bamberger, 2008). As previous sections have dealt with the what (content of the study) and why (rationale for conducting the research) of this research, this section will provide some additional information on how exploring the who, where and when of this study can improve our contextual understanding of trust.

In terms of *who*, this research focuses specifically on trust development at a peer level where the referent is a group of coworkers. As such, this study answers calls to improve our understanding of horizontal trust dynamics (Yakovleva et al., 2010). The participants in this research are also notable in terms of their homogeneity in age, national culture, race and occupation. This homogeneity may impact trust cue perceptions and trust intentions. For instance, social identity theory suggests that demographic homogeneity is likely to increase newcomer experiences of group identification (Hogg & Terry, 2000). All participants in this sample are knowledge

workers within the Big 4 consulting industry in Ireland (*where*). In developed countries, the numbers of employees working as knowledge workers is on the increase, making this an important context to explore and comprehend (Chen & Klimoski, 2003; Janz et al., 1997). Furthermore, within an Irish context the Big 4 consultancy firms have remained one of the largest employers of university graduates during a period of time where economic pressures have impacted global youth employment levels. Large scale socialisation practices are also typical of a variety of other industries which recruit large numbers of educated employees including financial services, healthcare, retail companies and large IT firms. This study contributes significantly to our understanding of how trusting relationships might develop in these contexts.

The *when* in this research is important for two key reasons. As discussed above, the longitudinal design of the study captures the dynamic process of trust; additionally, this research was conducted during an important time period in participants' careers. The socialisation context allows a unique opportunity to study trust development from the very beginning of relationship initiation as well as providing a natural control for many variables which complicate trust relationships (e.g. tenure, status, power). In utilising this socialisation context, this research provides a more fine-grained understanding of the process of trust development within new employee relationships. Although the contributions of this research are focused in the trust literature, this study also supports ongoing work in the area of socialisation (Ashforth et al., 2007) by portraying newcomers as actively searching for trust cues in their new environment, and by providing insight into relationship building processes.

Unexpected relationships between variables are often a function of contextual influences in research (Johns, 2006). Drawing on existing trust theory (Kramer & Lewicki, 2010), this research predicted a shift from the use of presumptive trust cues to the use of personal trust cues. This pattern was not observed in the findings and it is possible that the relationships reported between trust antecedents and trust intentions are context specific. However, the selection of a range of trust cues is an important contribution in terms of improving our understanding of trust development during socialisation. Johns (2006) critiques organisational theory as focusing solely on opportunities provided by the context rather than the constraints it imposes. This research contributes to contextual understanding of trust development by studying trust cues that provide the opportunity to engage in trust behaviours (e.g. group identification and benevolence) as well as those that enhance trust intentions by constraining trustee behaviour (e.g. rule-based trust).

An additional benefit of improving contextual understanding is the ability to translate empirical research into practical implications for organisations (Johns, 2006). The application of the current research to practice will now be considered.

### **7.3.5 Implications for Practice**

This research offers insight for organisations and individuals striving to build effective workplace relationships between new colleagues, employees from different departments, potential collaborators and even between employees and customers. A clearer picture of early trust development and the factors which drive it provides practitioners with a more nuanced understanding of new relationship processes and a map for proactive relationship building. For instance, the growth trajectory of trust intentions revealed in this study suggests that the first few weeks of any new

relationship are likely to be characterised by more rapid change. This research suggests that individuals are willing to rely on their perceptions of the trustee from the first meeting. Furthermore, these findings clearly indicate that different trustworthiness perceptions are relevant for different behaviours. Employees meeting new colleagues or clients may wish to engage in impression management to highlight their competence or benevolence depending on whether they wish to inspire reliance or disclosure behaviours. In workplace relationships where knowledge sharing is central to achieving goals, this research appears to suggest that benevolence perceptions are key. In contrast, in environments where reliance is vital, it may be more effective for trustees to highlight their ability and competence.

This research also makes a number of practical recommendations for the design of effective socialisation programmes. Trust is widely accepted as a key ingredient in high quality social exchange relationships (Blau, 1964). Newcomers who develop strong exchange relationships with their coworkers are likely to benefit from more social and work related support, empowering newcomers to high levels of job performance (Chen & Klimoski, 2003). Therefore, organisations that wish to invest in effective socialisation programmes would be wise to carefully consider promoting trust development. The fragility of trust and its vulnerability in the face of trust undermining events (Kramer, 1999) suggests that the particular activities planned for new joiners in the socialisation period are likely to have an important impact on whether initial trust is consolidated and built on or quickly destroyed. The results of this study imply that organisations need to pay particular attention to socialisation activities in the first days or weeks of socialisation as these initial periods are most important to changes in trust in coworkers. Management may consider employing methods that reinforce and consolidate initial high trust baselines



by optimising opportunities for positive and supportive interaction. In particular opportunities may be offered for newcomers to interact on a variety of tasks that require collaborative knowledge exchange. Teambuilding tasks and exercises are known to influence team member trust and motivational development (Dirks, 1999). They provide a useful domain for reliance based trust consolidation, and as time passes and with positive experience, disclosure based trust may also be enhanced. Additionally, structured social interaction associated with social events might be planned to provide the opportunity for newcomers to spend time with each other and facilitate relational bonding.

These results also point to the cues that new joiners are likely to attend to when making trust decisions in their new organisational environment. As evidence of coworker competence and benevolence have a strong impact on trust decisions, it may be useful for managers to craft collaborative and interdependent work tasks that would showcase these characteristics. Organisations and managers alike would benefit from an increased understanding of the relative importance of different trust cues so that they can take steps to improve the environment they provide for new hires and thus encourage the development of effective trust behaviours amongst employees. Consideration should be given to allowing time and opportunity for newcomer relationships to evolve from personal common ground to communal common ground (Priem & Nystrom, 2013), associated with a more resilient form of trust. In this sample, identification had an inconsistent relationship with trust intentions and relates to both reliance and disclosure only in the final stage of socialisation. If, as theorists have suggested (Dietz & Den Hartog, 2006; Lewicki & Bunker, 1996), identification-based trust represents a more complete version of trust, activities which highlight communal values and interests may be particularly

beneficial. Finally, while peak trust development occurs in the early days of socialisation, our research indicates that development is still on-going over the first three months of a newcomer's time in their new organisation. This would suggest that management should continue to exert effort in tasks and interactive spaces for newcomers to collaborate and build deeper relational ties and identification.

#### **7.4 Limitations and Future Research Directions**

In considering the implications of this research, there are a number of limitations that should be taken into account. Firstly, all of the measures used were completed by self-report, increasing the risk of common method bias in the results. However, the longitudinal design and the reordering of questions in the survey did allow some aspects of this bias to be limited (Podsakoff et al., 2003). Additionally, results from the Harman one factor test (reported in Section 5.3.2) and the single method factor procedure (reported in Section 6.4.1) indicate that common method bias is not a major concern in this data set. The use of self-report data is typical of studies in this field; perceptions of others and intentions to behave in a certain manner are within person variables which are arguably only measurable through self-report (Chan, 2009). Furthermore in the socialisation context, newcomer self-reports have been shown to be a stronger predictor of individual attitudes than more objective measures (Saks, 1996; Saks & Ashforth, 1997b).

Secondly, the referent used in this study was "other trainees in my group" where some groups had up to thirty members. This represents a limitation as it does not allow the respondents, or the researcher, to differentiate between the multiple coworker relationships that may develop at different rates, with different levels of interaction and in potentially different directions within that group. However, a

number of the variables used in this research were specifically conceptualised so that they could be applied at both individual and group levels (Schoorman et al., 2007). A recent review of the trust literature reveals that understanding trust in group level referents is becoming increasingly important to organisations and researchers alike (Fulmer & Gelfand, 2012). Indeed trust has been described as a meso level concept, traversing all levels of organisation (Rousseau et al., 1998). However, trust in different referents may involve different antecedents and consequences (Fulmer & Gelfand, 2012) and it is possible that trust in a dyadic relationship may develop in a functionally different manner than trust in a coworker group. In order to build a fuller picture of trust development within and across levels of analysis, further research is needed to identify how trust in a group may differ from trust in a more specific referent. For instance, with one particular coworker, within a smaller team setting, or trust in the organisation itself. Additionally, by studying the process within specific dyads or small teams, future research could improve our understanding of the extent to which trust development trajectories are symmetrical or not.

The third limitation of this research relates to the generalisability of the results. This study was conducted using a sample of organisational newcomers who are members of one organisation in a particular industry. Although organisational newcomers allow the perfect opportunity to track trust development from day one of a relationship, further research is needed to investigate whether our findings can be generalised to broader contexts. This sample of new joiners is relatively homogenous in age and previous full-time work experience. This homogeneity may have influenced certain variables, in particular dispositional variables such as propensity to trust. It is possible that individual propensity to trust others in a work context might vary with respect to previous positive or negative experiences in the workplace.

Furthermore, in homogenous groups trust may develop more rapidly due to a shared understanding of trust cues and working relationships (Doney, Canon, & Mullen, 1998). As Dietz et al. (2010) note, in relationships where the trustor and trustee have different backgrounds (e.g. nationality or profession), asymmetry in their understanding of trust can impact trust cue signalling and perception. Future research might investigate trust development in heterogeneous groups as well as whether recent university graduates, such as the participants in this sample, demonstrate different trust development patterns to those who have built up more considerable work experience. Despite this, the homogenous sample and socialisation context with newcomer peers as a referent is also a strength of this study as it provides a natural control for tenure and status which may have acted as confounding variables with another sample.

Trust development in homogenous groups may be associated with less risk than in more diverse work settings. This is potentially problematic in the case of Gillespie's (2003) scale, which specifically measures willingness to be vulnerable; implying that a level of risk is present. On the other hand, in the socialisation context, feelings of vulnerability and risk are likely to be heightened by the extent of new experiences newcomers are dealing with, the importance of building effective relationships to start their new career, and the emphasis the organisation places on relationship building. Overall, it is clear that the pattern of relationships observed between trust cues and trust intentions may have been influenced by the socialisation context. Future research is needed to discern whether this pattern might generalise to other socialisation contexts or indeed to compare these results to new relationships between more tenured employees. There may also be some potential in assessing whether uniquely different cues are involved in the development of trust in different

foci (e.g. trust in the organisation versus trust in coworker). Further longitudinal studies investigating trust development in different foci could offer a very valuable contribution to this contested issue (Bachmann, 2011; Dietz, 2011).

Finally, measurement invariance testing uncovered a lack of full scalar invariance for three of the ten items in the Behavioral Trust Inventory (Gillespie, 2003). In practice, some level of non-invariance is common (Cheung & Lau, 2012; Vandenberg & Lance, 2000), particularly if researchers probe deeper than the metric level. However, testing for measurement invariance is vital in helping researchers to interpret results and offers potentially meaningful information regarding the differential functioning of survey items across time. It would be interesting from both a measurement and theoretical perspective to look further at this issue and investigate why certain trust items might be invariant across time and groups. The non-invariance of certain items from other popular trust scales across cross-cultural groups (Wasti et al., 2007) and time (Schaubroeck et al., 2013) has already been demonstrated. Further research is needed to examine why certain items are less stable across time than others and whether the concept of trust is something that adapts and changes continually during an individual's working life or if this change is specific to key periods such as joining a new organisation.

In light of these limitations and the results reported in Section 7.2, a number of additional and promising avenues exist for future research. In particular, although LGM represents the current gold standard in longitudinal data analysis in the field of organisational psychology, analysis techniques are constantly being revised and developed. One limitation of the LGM approach is that it creates change trajectories only at the individual or overall group level. Future research might examine how

techniques such as latent class growth modelling can be used to detect whether different latent groups exist within the sample. Examples of this analysis are rare in the field but offer the opportunity to uncover potentially meaningful differences in growth and decline processes over time (Solinger et al., 2013).

In addition, the relationship between trust and identity is one which requires further investigation in the literature. These findings echo the recent advances in social identity theory which indicate the multifaceted process of identification over time (Sluss, Ployhart, Cobb, & Ashforth, 2012). Traditionally, trust researchers have built soundly on social exchange theory as a theoretical foundation for trust development research and positioned identification as an antecedent of trust, with some exceptions (e.g. Möllering, 2012). It may be that a refocus on social identity theory and self-definitional processes relative to trust development is required, particularly in new hire contexts. Future research might attempt to tease apart these developmental trajectories.

In some cases, the pattern of relationships between trust cues and trust intentions was unexpected. Future research would also benefit greatly from assessing newcomer levels of confidence in their trust cue perceptions. It may be that even when individuals report high levels of role-based trust, their confidence in this perception is not sufficient for them to be willing to make themselves vulnerable on that basis. Furthermore, some theorists have suggested that information collected from the environment serves as a source of evidence for trustworthiness expectations (Dietz & Fortin, 2007; McKnight et al., 1998). In this model, that would suggest that personal cues should mediate the relationship between presumptive trust cues and trust intentions in early trust judgements (e.g. trust intentions at Time 1) and that these

indirect effects would dissipate as the relationship matured. Additional analysis revealed that this was not the case in the current data set. However, future research may investigate this theoretical proposition further and with different samples. Additionally, it was somewhat surprising in this research that integrity was not a more meaningful predictor of trust intentions. It is possible that it is due to the research design on this study. This research was conducted over a three month period for theoretical and logistical reasons and provides an important picture of early trust development. However, understanding of trust development patterns may be furthered by choosing alternative time periods. For example, a longer period of time may reveal further changes in the importance of trust cues and it would be interesting to examine the continued trajectory of trust intentions. It is neither likely nor desirable (Skinner et al., 2013) for trust development to continue in an unconditional growth spiral. Research which captures trust decline as well as growth would offer further insight into the importance of trust cues at different time points.

## **7.5 Conclusion**

This research provides the first in-depth empirical examination of longitudinal trust development. The study used a four wave design to collect survey data from a sample of newcomers in an Irish Big 4 consultancy practice. The results of the study capture trust as an unfolding psychological process rather than a static belief or attitude. In doing so, this research clarifies our understanding of trust development including the influence of individual differences in trust propensity and the impact of six key trust cues across time and trust intentions. The findings of this study have important implications for the advancement of trust development theory and the improvement of organisational practice particularly in relation to the design of

socialisation activities. Future research is needed to continue to shed light on this important topic allowing researchers to further highlight the critical role trust plays in effective working relationships.



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## Appendix A – Plain Language Statement



### Study on co-worker relationship development

Dear Participant,

This research is being conducted as part of a PhD in Organisational Psychology. Through your participation in this study I hope to develop understanding of how positive work relationships develop between co-workers as they join a new organisation. The study will involve collecting data at a number of stages throughout the next 3 months, at each stage you will be invited to complete a questionnaire containing questions which are designed to assess your experiences with and expectations of your fellow trainees. Each questionnaire should take between 5 and 10 minutes to complete.

You will be asked to provide the last 6 digits of your mobile phone number to allow us to track your responses across stages while protecting your anonymity. Information compiled from the questionnaire will be reported only in aggregate form and the information you provide will remain confidential and will not be shared with any other individual. All completed questionnaires will be stored in a secure manner in DCU until I complete my PhD. While I do have the support of KPMG to engage in this research, it is being conducted by me in an academic capacity. You are not obliged to participate in this study if you do not wish to; your participation is voluntary and is very much appreciated. Choosing to participate or not will not affect your job or job-related evaluations in any way.

Thank you in advance for your time and effort. Your help is greatly appreciated. If you have any questions or would like further information on the study and its results, please feel free to contact me at 087 1238850, or [lisa.vanderwerff2@mail.dcu.ie](mailto:lisa.vanderwerff2@mail.dcu.ie). Alternatively, you can contact my academic supervisor Dr Finian Buckley at [finian.buckley@dcu.ie](mailto:finian.buckley@dcu.ie).

Yours faithfully,

Lisa van der Werff  
PhD Research Scholar Dublin City  
University Business School Dublin 9  
Ireland

## Appendix B – Sample Questionnaire



Dublin City University  
Ollscoil Chathair Bhaile Átha Cliath

### SECTION 1

1. Name \_\_\_\_\_

2. Last 6 digits of your mobile phone number

(this will allow us to match your responses to later questionnaires while keeping your data anonymous)

3. Are you?

☐ Male

☐ Female

4. Please indicate your nationality?

☐ Irish

☐ Other (please specify) \_\_\_\_\_

5. What age are you? \_\_\_\_\_ years

6. What is the highest degree you have obtained?

☐ Bachelor's Degree

☐ Masters

Other (please specify) \_\_\_\_\_

7. Department

☐ FS Audit

☐ CIM Audit

☐ CHEC Audit

☐ Other (please specify)

\_\_\_\_\_

### SECTION 2

Please indicate the extent to which you believe each of the following statements is true on the scale provided below

	<div> <div>To no extent</div> <div>←</div> <div></div> <div>→</div> <div>To a great extent</div> </div>						
One should be very cautious when working with other people	1	2	3	4	5	6	7
Most people tell the truth about the limits of their knowledge	1	2	3	4	5	6	7
Most people can be counted on to do what they say they will do	1	2	3	4	5	6	7
If possible, it is best to avoid working with people on projects	1	2	3	4	5	6	7

Most people are honest in describing their experience and abilities	1	2	3	4	5	6	7
Most people answer personal questions honestly	1	2	3	4	5	6	7
Most people are very competent in terms of their studies	1	2	3	4	5	6	7

### SECTION 3

Please indicate the extent to which you agree with each of the following statements on the scale provided below

	<div>Strongly Disagree ←   → Strongly Agree</div>						
Our workplace has processes that assure that we will be treated fairly and equitably	1	2	3	4	5	6	7
I work in an environment in which good procedures make things fair and impartial	1	2	3	4	5	6	7
Fairness to employees is built into how issues are handled in our work environment	1	2	3	4	5	6	7
In this workplace, sound practices exist that help ensure fair and unbiased treatment of employees	1	2	3	4	5	6	7

### SECTION 4

When considering each of the statements below please indicate how you feel about the attributes of **trainee accountants in general**. Again please indicate the extent to which you agree with each of the statements on the scale provided

	<div>Strongly Disagree ←   → Strongly Agree</div>						
Trainee accountants have a strong sense of justice	1	2	3	4	5	6	7
I never have to wonder whether trainee accountants will stick to their word	1	2	3	4	5	6	7
Trainee accountants try hard to be fair in dealings with others	1	2	3	4	5	6	7
Trainee accountants are very consistent in their actions and behaviours	1	2	3	4	5	6	7
I like the values that trainee accountants hold	1	2	3	4	5	6	7
Sound principles seem to guide the behaviour of trainee accountants	1	2	3	4	5	6	7
Trainee accountants are very concerned about the welfare of others	1	2	3	4	5	6	7
Trainee accountants would not knowingly do anything to hurt others	1	2	3	4	5	6	7
Trainee accountants will go out of their way to help others	1	2	3	4	5	6	7

## SECTION 5

With reference to the other trainees in your group (i.e. group 1, 2, 3, 4, 5 or 6) please indicate on the scale below how willing you are to....

	Not at all willing ←				→ Completely willing		
Rely on your group member's work-related judgements	1	2	3	4	5	6	7
Rely on your group member's task-related skills and abilities	1	2	3	4	5	6	7
Depend on your group members to handle an important issue on your behalf	1	2	3	4	5	6	7
Rely on your group members to represent your work accurately to others	1	2	3	4	5	6	7
Depend on your group members to back you up in difficult situations.	1	2	3	4	5	6	7
Share your personal feelings with your group members	1	2	3	4	5	6	7
Confide in your group members about personal issues that are affecting your work	1	2	3	4	5	6	7
Discuss how you honestly feel about your work, even negative feelings and frustration	1	2	3	4	5	6	7
Discuss work-related problems or difficulties that could potentially be used to disadvantage you	1	2	3	4	5	6	7
Share your personal beliefs with your group members	1	2	3	4	5	6	7

## SECTION 6

Please indicate the extent to which the following statements are a correct assessment about how you feel about your group (i.e. group 1, 2, 3, 4, 5 or 6)

	Not at all correct ←				→ Totally Correct		
When someone criticizes my group, it feels like a personal insult	1	2	3	4	5	6	7
When I talk about my group, I usually say 'we' rather than 'they'	1	2	3	4	5	6	7
I am interested in what others think of the group I work with	1	2	3	4	5	6	7
I view the group's successes as my successes	1	2	3	4	5	6	7
When someone praises my group, it feels like a personal compliment	1	2	3	4	5	6	7

## SECTION 7

Please indicate the number that accurately reflects your level of agreement with each of the following statements.

	Strongly Disagree ←				→ Strongly Agree		
The other trainees in my group are very capable of performing their jobs	1	2	3	4	5	6	7
The other trainees in my group are known to be successful at the things they try to do	1	2	3	4	5	6	7
The other trainees in my group have much knowledge about the work that needs to be done	1	2	3	4	5	6	7
I feel very confident about the skills of the other trainees in my group	1	2	3	4	5	6	7
The other trainees in my group have specialised capabilities that can increase our performance	1	2	3	4	5	6	7
The other trainees in my group are well qualified	1	2	3	4	5	6	7
The other trainees in my group are very concerned about my welfare	1	2	3	4	5	6	7
My needs and desires are very important to the other trainees in my group	1	2	3	4	5	6	7
The other trainees in my group would not knowingly do anything to hurt me	1	2	3	4	5	6	7
The other trainees in my group really look out for what is important to me	1	2	3	4	5	6	7
The other trainees in my group will go out of their way to help me	1	2	3	4	5	6	7
The other trainees in my group have a strong sense of justice	1	2	3	4	5	6	7
I never have to wonder whether the other trainees in my group will stick to their word	1	2	3	4	5	6	7
The other trainees in my group try hard to be fair in their dealings with others	1	2	3	4	5	6	7
The actions and behaviours of the others trainees in my group are not very consistent	1	2	3	4	5	6	7
I like the values of the other trainees in my group	1	2	3	4	5	6	7
Sound principles seem to guide the behaviour of the other trainees in my group	1	2	3	4	5	6	7

*Thank you for taking the time to complete this survey*



## Appendix C – Ethical Approval Letter

Dublin City University  
Oifís na nEalaíon agus na nEalaíon



Dr. Finian Buckley  
DCU Business School

19<sup>th</sup> September 2011

**REC Reference:** DCUREC/2011/093

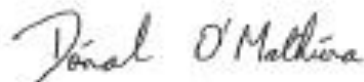
**Proposal Title:** Trust Development in New Recruits – Within and Between Person Differences

**Applicants:** Dr. Finian Buckley, Ms. Lisa van der Werff

Dear Finian,

This research proposal qualifies under our Notification Procedure, as a low risk social research project. Therefore, the DCU Research Ethics Committee approves this research proposal. Should substantial modifications to the research protocol be required at a later stage, a further submission should be made to the REC.

Yours sincerely,

A handwritten signature in black ink, reading 'Donal O'Mathuna'.

Dr. Donal O'Mathuna  
Chair  
DCU Research Ethics Committee



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