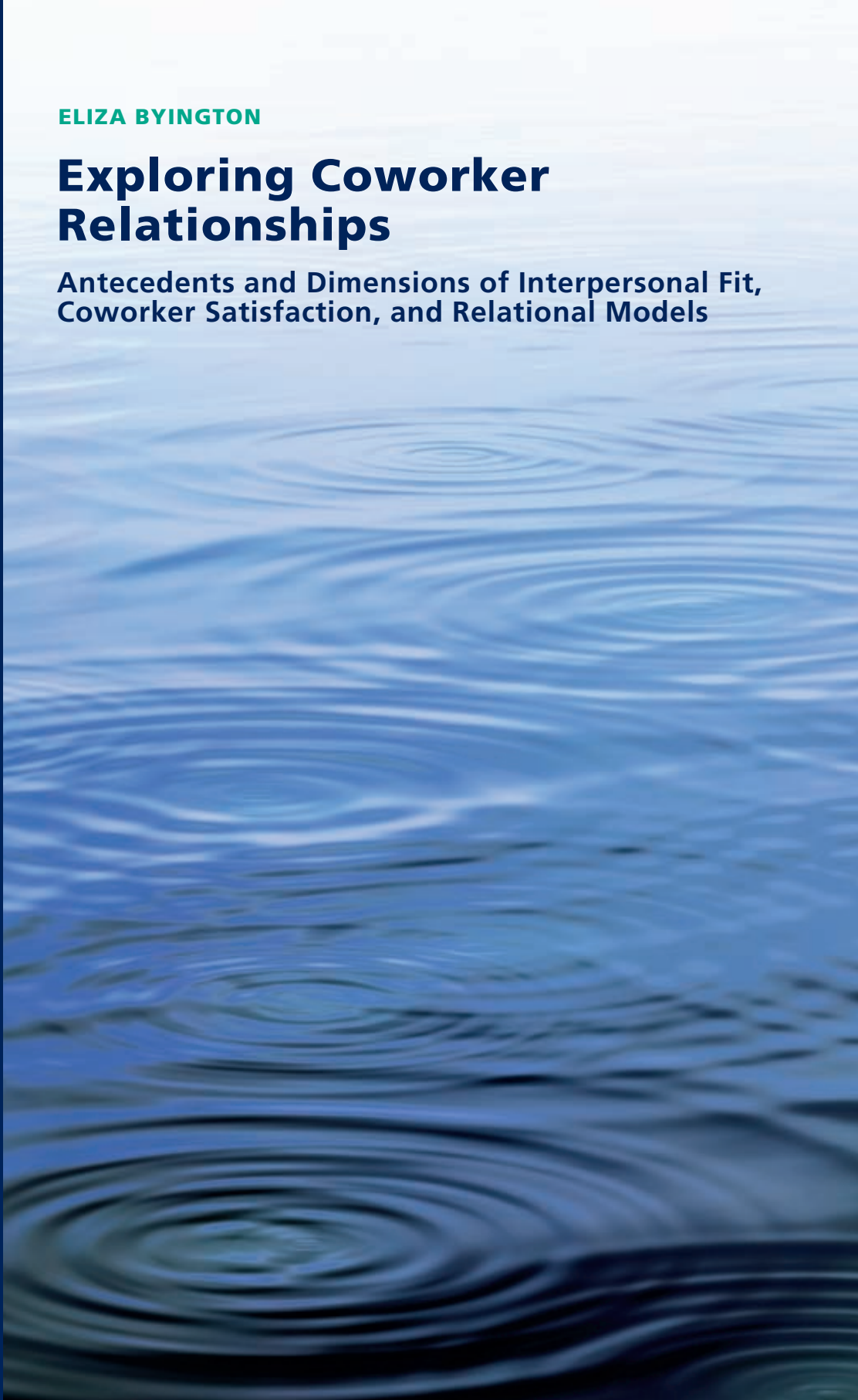
ELIZA BYINGTON

Exploring Coworker Relationships

Antecedents and Dimensions of Interpersonal Fit, Coworker Satisfaction, and Relational Models



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Antecedenten en dimensies van interpersoonlijke fit, tevredenheid met collega's en Relationele Modellen

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Chapter 1: Introduction

A great deal of organizational behaviour research points to the importance of dyadic relationships among coworkers for individual and organizational outcomes (Adkins, Ravlin, & Meglino, 1996; Antonioni & Park, 2001; Graves, & Powell, 1995; Ferris & Judge, 1991; Ferris et al., 2009; Schaubroeck & Lam, 2002; Tsui & O'Reilly, 1989; Turban & Jones, 1988). Coworker relationships have been shown to be drivers employee motivation (Dutton, 2003; Dutton & Heaphy, 2003; Grant, 2007), employee identities and identification (Sluss & Ashforth, 2007), and commitment (Shore et al., 2004). Satisfaction with coworkers has been linked to both work and life satisfaction (see also Smith, Kendall, & Hulin, 1969; Weiss, Dawis, England, & Lofquist, 1967), turnover (Griffeth, Hom, Gaertner, 2001), and commitment (Lee, Carswell, & Allen, 2000). However, our understanding of the drivers of coworker satisfaction, and the nature of coworker satisfaction itself, and the relationships among coworkers remain underdeveloped both theoretically and methodologically (Edwards, 2008; Judge & Ferris, 1992; Kenny, 1994; Kristof-Brown et al., 2005; Kristof-Brown & Guay, 2011; Muchinsky & Moynihan, 1987). The research presented here attempts to advance our understanding of dyadic coworker relationships by addressing two questions:

What drives the experience of coworker satisfaction with a colleague?

What determines the type of relationship that emerges between coworkers?

Overview of the Dissertation

To begin to address the first question, the second chapter of this dissertation offers a new theory of Person-Person fit – suggesting that warmth and competence (respectively) constitute interpersonal resources, and that receiving these resources in the desired quantity from coworkers (fit) contributes to coworker satisfaction. Recently, a consensus has begun to form in psychology that warmth and competence are the dominant factors in our perceptions of others (Asch, 1946; Bakan, 1966, Cuddy, Fiske, and Glick, 2008; Cuddy, Glick, & Beninger, 2011; Deci & Ryan, 2000; Fiske, Xu, Cuddy, & Glick, 1999; Fiske, Cuddy, Glick, Xu, 2002; Fiske, Cuddy, & Glick, 2007; Rosenberg, Nelson, & Vivekananthan, 1968; Wojciszke, Bazinska, & Jaworski, 1998). However, the implications

of this research have only begun to be introduced to the literature on coworker relationships (Cuddy, Glick, & Beninger, 2011). Following Edwards' (2008) guidelines of for strong theory, this chapter outlines the antecedents of the degree of warmth and competence employees desire from their coworkers, the variables influence perceptions of these resources in the environment, and moderators of the link between warmth and competence fit respectively and overall coworker satisfaction.

The third chapter explores coworker satisfaction itself. In the literatures in which it is studied, satisfaction is defined as an affective phenomenon - a consequence of (and contrasted with) "fit" – the awareness of degrees of discrepancy along various resource dimensions (Edwards & Shipp, 2007). Satisfaction has been used to refer to tension resulting from unmet needs (Schaffer, 1953), or a pleasurable affective response proportional to the degree of match between environmental provisions and the individual's goals, expectations, values, or needs (Cranny, Smith, & Stone, 1992; Dawis & Lofquist, 1984; Lawler, 1973; Locke, 1969; Katzell, 1964; see Edward's 2008 review of the P-E fit literature). Though coworker satisfaction is typically investigated as an important consequence or antecedent of phenomena in organizations, the construct itself has received very little attention and development (Bowling, Hendricks, & Wagner, 2008; Spector 1997). In this chapter, I argue that a particular instance of coworker satisfaction an individual may experience with regard to a colleague may derive from 3 distinct sources: the general tendency of the perceiver to experience satisfaction with their coworkers, the general tendency of the partner to evoke satisfaction from others, and the perceiver's response that is specific to a particular colleague absent each partner's general tendencies to experience and provoke coworker satisfaction. Building on the methodologies of Kenny (1994) and Edwards (Edwards & Parry, 1993; Edwards, 1994; 2001; 2002), chapter three empirically examines these sources of variance, and tests personality antecedents of each of these dimensions of coworker satisfaction.

The fourth chapter of this dissertation begins to address question two: what determinants the kind of relationship that emerges between coworkers? Building on Fiske's research, which establishes four basic types of interpersonal relationships (Fiske, 1992, 1993, 1995; Fiske & Haslam, 2005; Fiske, Haslam, & Fiske, 1991; Haslam, 1994a, 1994b; Haslam & Fiske, 1992, 1999), and emphasizing relationships as perceived

phenomena, I consider the role of individual tendencies to prefer, perceive, and provoke certain relational models, and the partner-specific aspect of the emergence of relationship type. The general tendency to perceive particular kinds of relationships across one's relationships, a tendency for individuals to generally evoke particular relationship types across their partners, and variance in relationship emergence that is partner-specific are theorized and empirically tested. Reciprocity between actor and partner relationship perceptions are also explored, in particular a correspondence between generally perceived and generally evoked relationship styles, and one's relationship specific relational perceptions and the relationship specific relationship perceptions of one's partner. Further, I explore the antecedents of relationship style preferences, perceiver, partner, and relational variance in relationship perceptions. In particular, I theorize the role of relational model preference, the personality traits of agreeableness and extroversion, and gender in predicting perceiver and partner effects, as well as the role of dyad members' relative degrees of agreeableness and extroversion (respectively) in predicting relational variance in communal sharing relationship perceptions. Thus, this chapter considers the sources of variance in perceptions of relationship types, and the antecedents of these aspects of relationship variance. In the final chapter, I offer a general discussion, a summary of the main findings, and concluding thoughts.

Chapter 2: Warmth and Competence: A Theory of Two Dimensions of Person-Person Fit

The fit paradigm suggests that competitive advantage can be achieved not only through hiring the best and brightest, but also by selecting those individuals that match the particular environment. In the Person-Environment fit literature (hereafter referred to as P-E fit), "environment" is used as an umbrella term, which variously refers to organizations, jobs, vocations, teams, or coworkers. The goal of P-E fit research is to identify those characteristics that can be used to match employees to the environments that are right for them, and vice versa. This research domain has become a core area of organizational behavior scholarship (Dawis & Lofquist, 1984; Edwards, Caplan, & Harrison, 1998; Edwards et al., 2006; Holland, 1997; Kristof, 1996; Kristof-Brown, Zimmerman, & Johnson, 2005; Walsh, Craik, & Price, 2000) and has yielded valuable insights for management academics and practitioners alike. For example, Person-Organization fit has been shown to predict individual performance (Tziner, 1987), citizenship behaviors (O'Reilly & Chatman, 1986), and turnover (Schneider, 1987).

Recently a new area of fit research, person-person fit (P-P fit), has emerged which examines how fit with the interpersonal environment (i.e. coworkers) can also lead to important individual outcomes. Evidence is already beginning to accrue that person-person fit is an important factor in organizational behavior. Empirical findings support links between coworker value congruence and job satisfaction (Adkins, Ravlin, & Meglino, 1996), person-supervisor fit and contextual performance (Antonioni & Park, 2001), recruiter-applicant fit and selection (Graves, & Powell, 1995), peer and supervisor personality fit and promotion (Ferris & Judge, 1991; Schaubroeck & Lam, 2002;), and similarity to evaluators and performance ratings (Tsui & O'Reilly, 1989; Turban & Jones, 1988) – to name just a few examples. Such research holds the promise of identifying which individuals should work together to achieve various aims, and how that work should be structured. Thus, this nascent research area has the potential to inform a variety of relational literatures in management, from leader member exchange (LMX), to mentoring, workplace friendships, social networks, team composition, and intra-team dynamics.

However, P-P fit is also the least studied aspect of person-environment fit. Indeed, Edwards' review of the P-E fit literature (2008) finds no major theoretical statement from

person-person fit research. Here, I take a significant step in this direction. Building on insights from social psychology and the interpersonal perception literature, I advance a theory of two dimensions of interpersonal fit — warmth fit and competence fit. A substantial body of research highlights the importance of needs for warmth and competence, and the attention and weight we ascribe to these characteristics in others (Asch, 1946; Bakan, 1966, Cuddy, Fiske, and Glick, 2008; Cuddy, Glick, & Beninger, 2011; Deci & Ryan, 2000; Fiske, Xu, Cuddy, & Glick, 1999; Fiske, Cuddy, Glick, Xu, 2002; Fiske, Cuddy, & Glick, 2007; Rosenberg, Nelson, & Vivekananthan, 1968), nearly to the exclusion of all other factors (Wojciszke, Bazinska, & Jaworski, 1998). Here, I propose that the degree to which needs for warmth and competence are met by a coworker contributes to the experience of person-person fit.

To preview the structure of the paper, I first define these two key dimensions of person-person fit in terms of the meaning of coworker warmth and competence as characteristics of the interpersonal environment which address underlying needs of individuals. Second, I suggest that employees will be more satisfied with a coworker when there is a match between an employee's desired levels of warmth and competence and the degrees of these qualities perceived by that employee to be supplied by a coworker. Thus, the functional form of fit is hypothesized to be the parabolic, such that satisfaction with coworkers should be most positive when needs and supplies match. The theory developed here is thus a needs-supplies theory of fit. Third, I draw on insights from management scholarship and social psychology to develop propositions about the situational and dispositional determinants of the amounts of warmth and competence desired from a coworker. Fourth, I also develop propositions on the antecedents of the perceived warmth and competence of a coworker, focusing on biases that may skew perceptions. Fifth, I develop propositions on the antecedents of the importance ascribed to warmth and competence fit. Collectively, these propositions offer a fit-based theory of when and why employees are satisfied with particular coworkers. The article closes with implications for future research and practice.

A THEORY OF INTERPERSONAL WARMTH AND COMPETENCE FIT

In advancing a theory of warmth and competence fit, I pay careful attention to the criteria for strong fit theory advanced by Edwards (2008). Person-environment research has been roundly critiqued for the conspicuous absence of careful theoretical work (Edwards, 2008; Judge & Ferris, 1992; Kristof-Brown et al., 2005; Kristof-Brown & Guay, 2011; Muchinsky & Moynihan, 1987). In particular, Edwards (2008) highlights the need for fit theory that 1) carefully defines and justifies the person and environmental components of fit, 2) specifies the functional forms of fit relationships (i.e. parabolic, asymmetric, sigmoid, etc.), and 3) identifies boundary conditions – i.e., when these dimensions of fit will be *un*important. This article develops a theory of warmth and competence based Person-Person fit that endeavors to meet Edward's (2008) criteria for good fit theory.

Two literatures serve as the basis for the theory of person-person fit developed here. First, from the person perspective, the individual needs literature has suggested that experiences of communion/belongingness and personal agency/competence are core to psychological wellbeing (Abele & Wojciszke, 2007; Bakan, 1966, Bartz & Lydon, 2004; Deci & Ryan, 2000). In this domain, particular attention has been paid to establishing the universal importance of these needs within the individual for wellbeing and how they influence behavior. Second, from the perspective of perceptions of the environment, a substantial literature in interpersonal perception research finds that people think about others in terms of warmth and competence (Asch, 1946; Rosenberg et al., 1968; Wojciszke, Bazinska, & Jaworski, 1998). The stream of research advanced by Susan Fiske, Amy Cuddy, Peter Glick, and their colleagues has synthesized and extended work on warmth and competence (Cuddy, Fiske, & Glick, 2008; Cuddy, Glick, & Beninger, 2011; Fiske, Cuddy, & Glick 2007; Fiske, Cuddy, & Glick, 2002; Fiske, Xu, Cuddy, & Glick, 1999).

Fiske, Cuddy, and Glick (2006) note that the roots of the warmth and competence as the "Big 2" of interpersonal perception go back to Asch (1946), Bales (1999), and Rosenberg and colleagues (1968). Recent extensions of research on warmth and competence perceptions have included establishing the predominance and universality of

these dimensions (Cuddy et al., 2008; Cuddy et al., 2009). The significance of these dimensions has been compellingly demonstrated by the extent to which these characteristics come to dominate our overall assessments of others (e.g. Asch, 1946) and emerge as the factors underlying the way people spontaneously organize descriptive adjectives (e.g. Rosenberg et al., 1968). Furthermore, work by Wojciszke, Bazinska, and Jaworski (1998) indicates that warmth and competence assessments together account for 82% of the variance in our interpersonal perceptions. Such evidence leads Cuddy, Fiske, and Glick (2008) to conclude that "when people spontaneously interpret behavior or their impressions of others, warmth and competence form basic dimensions that, by themselves, almost entirely account for how people characterize others" (73).

Coworker Warmth

According to Cuddy, Fiske, and Glick (2008), the importance of assessing warmth and competence comes from the survival value of answering two critical questions about another person. The first has to do with the motivations of the other – to what extent are their intentions toward one's self benevolent or threatening. *Coworker warmth* is used here to refer to the coworker's intent to advance the welfare of the focal actor (Cuddy et al., 2008; Peeters, 1983, 2001).

As Cuddy and colleagues (2008) point out, prosocial intent is inferred from friendliness, care, helpfulness, empathy, selflessness, kindness, consideration, sincerity, trustworthiness, and morality. These qualities are also interpreted as signals of a willingness to enter into resource exchange (Boone & Buck, 2003). Coworkers with certain dispositions are particularly likely to display such behaviors. Specifically, these behaviors are strongly associated with the overlapping personality traits of communalism (Clark et al., 1987), agreeableness (McCrae & Costa, 1987), and a cooperative social value orientation (McClintock & Allison, 1989; Messick & McClintock, 1968). In organizational contexts, such orientations may tap into the dispositional factors that contribute to organizational behaviors such as supportive leadership and consideration – which is measured with items that assess the degree to which a leader takes the followers' feelings and goals into account (Judge, Piccolo, & Ilies, 2004; Rafferty & Griffin, 2004).

The importance of the perceived benevolence of others also appears in the organizational behavior literature. For example, perceptions of coworker benevolence are a basis for trust (Mayer, Davis, & Schoorman, 1995). Benevolence-based trust is suggested to be critical for aspects of information exchange among employees, particularly in determining who gets approached for information (Levin & Cross, 2004). The significance of coworker benevolence is explained in that an employee revealing a lack of knowledge puts that employee in a vulnerable position.

Perceived warmth has been repeatedly shown to dominate our impressions of others, even over competency, both in importance and speed of judgments (Wojciszke et al., 1998; Wojciszke, Brycz, & Borkenau, 1993). And evidence is beginning to accrue that warmth is also a more formidable consideration than coworker competence for determining interpersonal organizational behaviors as well (e.g. Casciaro & Lobo, 2008).

Need for Warmth from Coworkers

There are a variety of ways in which the need for interpersonal warmth has been discussed. In the agency-communion literature, communion is often described in terms of the *personal consequences* of other-valuing behavior. For example, Abele and Wojciszke (2007) state that "Communion arises from strivings to integrate the self in a larger social unit" (751). Other terms for the need for communion include the need for relatedness and the need to belong (Baumeister & Leary, 1995). Deci & Ryan (2000), building on the work of Baumeister and Leary (1995), Bowlby (1958), Harlow (1958), and Ryan (1993), define the need for relatedness as "the desire to feel connected to others—to love and care, and to be loved and cared for" (231). Here, I use the term communion to refer to (and synonymously with) the *need* for interpersonal warmth. *Coworker warmth*, on the other hand, is used to denote the other benefiting intentions a focal employee perceives to be directed at themselves from a coworker.

The need for communion/relatedness/belonging helps to explain the substantial attention paid to the warmth and benevolence of others (Asch, 1946; Cuddy et al., 2008; Cuddy et al., 2011; Fiske et al., 2002; Fiske et al., 2007; Fiske et al., 1999; Rosenberg et al., 1968; Wojciszke, Bazinska, & Jaworski, 1998). The attention people pay to the warmth of others has been explained as our seeking to identify individuals who a) may be self-

serving at the expense of others and thereby pose a threat (Cuddy et al., 2011), b) may offer the warmth we desire, and c) may be individuals we want to offer warmth to and enter into mutually beneficial exchange relationships with. Given the substantial amount of time spent at work, people are highly likely to fulfill their social needs for communion through their coworker relationships. However, the degree to which warmth is desired from a particular coworker is also likely to be contingent on a number of factors.

In bringing the need for warmth to the domain of person-person fit, I suggest that it is the fit between employee wants and coworker provisions, rather than merely the provision, that is likely to be important for producing satisfaction with coworkers. Importantly, I will present evidence and arguments for the negative implications on satisfaction for the *under*, as well as *over* provision of warmth. Thus I hypothesize that:

> *Proposition 1: Fit between the desired and provided amount of warmth from a coworker will positively influence satisfaction with that coworker.*

Coworker Competence

In considering coworker competence, it is necessary to emphasize an important caveat. In the social judgment literature, "competence" refers to a person's ability to accomplish their own intentions (Cuddy et al., 2008; Peeters, 1983; 2001). This is in contrast to much of management research, which defines competence in terms of the ability to accomplish organizational objectives. To illustrate the distinction, a coworker may be politically skilled and able to get his or her own way (which is competence in the social judgment sense) but not have the knowledge necessary to help the organization to prosper (which is competence is the managerial sense). Here, I use coworker "competence" to refer to a coworker's ability to accomplish their own objectives, including when those objectives support the goals of the organization.

Whereas assessments of another's warmth are suggested to answer the question of whether the other is a potential benefactor or threat, assessments of competence answer a second critical question: to what extent will this person be successful in exacting their motivations – prosocial or otherwise (Cuddy et al., 2008)? Characteristics seen as signals of competence or perceived ability include efficacy, skill, efficiency, creativity, foresight,

knowledge, confidence, and intelligence (Cuddy et al., 2008; Fiske et al., 2007). Such assessments have significant implications for the interpersonal aspects of work, and in particular, the distribution of a variety of formal and informal resources (Chemers, 1997). Formal organizational processes such as job performance evaluations are of course strongly related to perceptions of competence in others, but the characteristics associated with competence are also widely and strongly linked to positive assessments of others generally (Abele & Wojciszke, 2007). Assessments of competence are also linked to a variety of emergent interpersonal dynamics, such as ascribed status, respect, and power (Bierstedt, 1950; Wojciszke, Abele, & Baryla, 2009). Ascribed competence by others can also influence the behaviors of the target individual, and can include greater eye contact, expressiveness, proximity to others and louder speech, as well as a tendency to be given more attention by others (Fiske, 2010). Ascriptions of competence can also evoke reciprocal behaviors in others – depending on contextual factors (Moskowitz, Ho, & Turcotte-Tremblay, 2007) – and perhaps most significantly, compliance (Hofling et al., 1966). Perceived competence also has significant implications for the weight that is given to information provided by a particular coworker, with greater competence providing a basis for greater trust (Levin & Cross, 2004; Mayer, Davis, & Schoorman, 1995).

Need for Competence from Coworkers

White (1959) suggested that there is a fundamental human motive to be able to influence one's environment toward the achievement of ones' goals. The consequence of this experience is a feeling which has variously been referred to as personal competence, mastery, self-efficacy, or agency. Abele and Wojciszke argue that "Agency arises from strivings to individuate and expand the self and involves qualities like instrumentality, ambition, dominance, competence, and efficiency in goal attainment" (2007: 751). Such qualities often have clear adaptive value in an evolutionary sense in that a motive to effect change in one's environment toward goals can improve one's survival and procreative success. Competence also has a variety of social implications, such as one's ability to contribute to the achievement of group goals (Parsons & Bales, 1955) and an individual, or group's, social status (Fiske et al., 2002; Tyler & Blader, 2002).

Importantly, the need for personal competence is supported by the proximity of competent others in a number of ways. First, proximity to competent others who can pass on knowledge and abilities can facilitate the experience of agency and achievement of one's own goals (Whiten & van Schaik, 2007). Beyond passing on specific knowledge, competent others can demonstrate the foundations for developing competence through the social modeling of functional behaviors, such as perseverance and effective approaches to problem solving (Gist & Mitchell, 1992) – ultimately contributing to self-assessments of competence. Third, being a part of a group of competent others can allow for particular members to specialize in domains in which they are especially well predisposed, and therefore facilitate the experience of personal competence. For example, in a sales team in which members possess differentiated skills in the dimensions which contribute to performance success, specific tasks can be divided in terms of the unique skills of particular members (Hollenbeck, Beersma, Schouten, 2011). Further, affiliation with respected groups – with respect itself being a reflection of competence assessments at the interpersonal (Wojciszke et al., 2009) and group level (Fiske, Cuddy, Glick, & Xu, 2002) – can contribute to assessments of one's own competence (Hewitt, 2005).

As will be explored further in the subsequent section, there are myriad potential benefits to being surrounded by others who can successfully achieve their aims. As such, I expect that the expression of competence related characteristics from a coworker can address a need for an interpersonal context that supports the experience of personal competence, in the focal employee. However, as with warmth, there are circumstances where individuals may want a coworker to be less competent. As the interpersonal perception literature suggests, high levels of competence in others can also be seen as a threat to one's self assessments (Flynn & Amanatullah, 2010; Tyler & Blader, 2002) and goal attainment (Deutsch 1949). For example, as I discuss later, when a coworker is competing with the focal actor for scarce resources, it is plausible that less competence is desired. The degree of competence desired in a coworker is, as such, suggested to be contingent on this, as well as a number of other factors.

> *Proposition 2: Fit between the desired and provided amount of competence from a coworker will positively influence satisfaction with that coworker.*

Specifying the Functional Form of Fit

As reviewed by Edwards (2008), the vast majority of fit theories have three components: some sort of affective explanandum (e.g. job satisfaction, strain, etc.) which is predicted by the two explanans of a (mis)fit score on some dimension (e.g. pay, supervision, autonomy, organizational culture, etc.) weighted by the importance of that dimension of fit. Our theory of Person-Person fit follows this form. In particular, Edwards highlights the value of theoretical work where the "model [is] stated in explicit terms using formulas that translate into specific hypotheses that can be empirically tested and potentially refuted (2008)."We develop two equations that explain how satisfaction with a particular coworker is related to the aforementioned dimensions of warmth and competence fit. In the first equation, satisfaction with a coworker is a function of warmth (mis)fit weighted by the importance of warmth fit. In the second equation, satisfaction with a coworker is a function of competence (mis)fit weighted by the importance of competence fit. Specifically, I hypothesize that:

$$SWC_j = K - (\,|DW_j - PW_j|\,)*IW \qquad (1)$$

Where SWC_j is Satisfaction with Coworker j; K is a constant; DW_j is the desired warmth from coworker j; PW_j is the perceived warmth of coworker j; and IW is the importance ascribed to the warmth dimension by the focal individual.

$$SWC_j = K - (\,|DC_j - PC_j|\,)*IC \qquad (2)$$

Where SWC_j is Satisfaction with Coworker j; K is a constant; DC_j is the desired competence from coworker j; PC_j is the perceived competence of coworker j; and IC is the importance ascribed to the competence dimension by the focal individual.

These two equations predict that an employee is most satisfied with a coworker when that coworker supplies exactly the amount of warmth and competence desired by the focal employee. Thus, whenever a coworker's perceived warmth is either less than or greater than the amount desired, it will lead to less satisfaction. Similarly, whenever a coworker's perceived competence is either less than or greater than the amount desired, it will lead to less satisfaction. These straightforward predictions are visualized in Figure 1.

FIGURE 1a: Coworker Warmth Fit

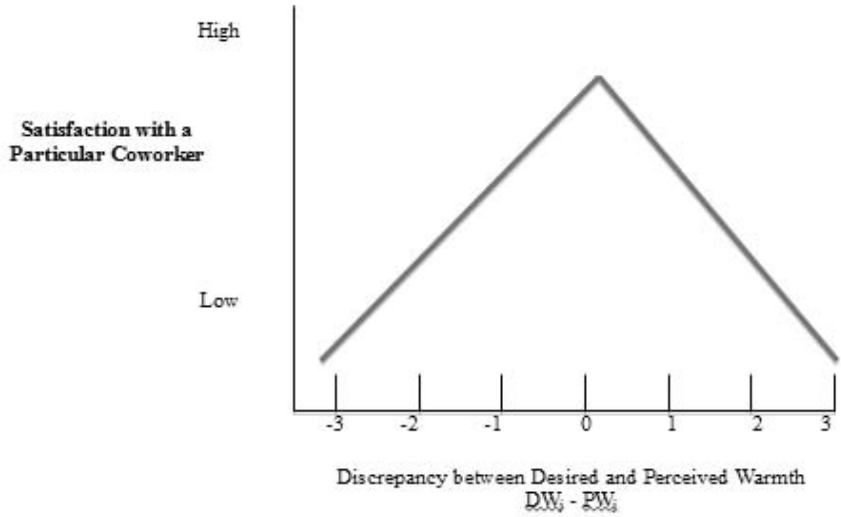
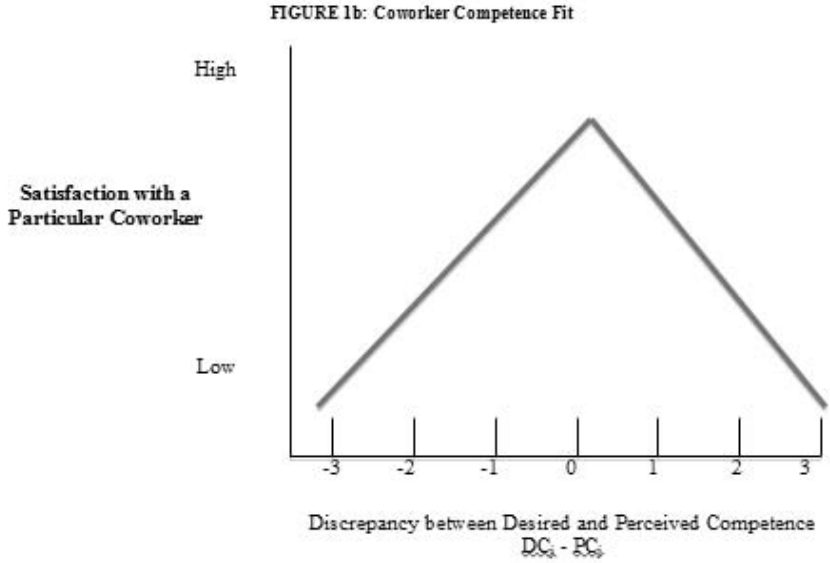


FIGURE 1b: Coworker Competence Fit



In summary, integrating and extending basic social psychological perspectives, I posit that *a) warmth and b) competence are key needs that individuals seek from coworkers, that c) employees are less satisfied with a coworker when that person's level of warmth or competence deviates from the desired amounts.* I now turn to the factors that influence the levels of warmth and competence people prefer from a coworker.

Desired Levels of Warmth and Competence

At first glance, it might seem that employees would want as much warmth and competence from a coworker as possible. In contrast, our prediction is that while nearly all individuals will possess these interpersonal needs to some degree, dissatisfaction will result from a coworker having less or more of these characteristics. Below, I develop predictions about when employees will desire more or less warmth from a coworker.

Willingness and ability to help a coworker and desired level of coworker warmth

Perceptions of benevolent intentions in others are, in general, a critical factor in affective interpersonal attraction (i.e. positive emotions toward another) and behavioral attraction (i.e. the desire to interact with them) (Montoya & Insko, 2008; c.f. Drachman, deCarufel, & Insko, 1978). Warm behaviors – such as positive interpersonal affect – are interpreted as signals of a willingness to engage in exchange (Boone & Buck, 2003). As such, perceived warmth is a critical starting point for the patterns of exchanges that constitute interpersonal relationships (Blau, 1964; Ferris et al., 2009). However, receiving the benevolence of others also entails obligation.

The access to the resources of a coworker implied by a coworker's warmth is in and of itself a resource – connoting the potential for a social exchange relationship with the focal employee. The norm of reciprocity dictates that the help of others should be repaid (Cialdini, 1995; Gouldner, 1960) and equity theory (Adams, 1963; 1965) suggests that individuals have a strong desire for balance in the degree to which they are able and willing receive and offer help to others. Receiving more help than one can, or is willing to, reciprocate may create feelings of discomfort and inequity (Hatfield & Sprecher, 1983) and concerns about indebtedness from the help offered or received (Cottrell, Eisenberg & Speicher,1992; Greenberg, 1980; Greenberg & Westcott, 1983). And indeed, it is highly

likely that offers of coworker resources will come with expectations that the focal actor reciprocate. Research by Dawes, McTavish, and Shaklee (1977), for example, suggests that expectations for others' degree of cooperation are based on presumed similarity with one's own disposition to benefit others. As such:

> *Proposition 3: The degree of warmth desired from a coworker is proportional to the extent that a focal employee is willing and able to reciprocate a desire to benefit that coworker and engage in coworker benefiting behavior.*

Relative availability of warmth from other relationships and desired levels of warmth

Situational factors can also influence the levels of warmth an employee seeks from a coworker. Explicit in many theories that highlight the need for communion is the idea that individuals will actively seek it out in their environment – in particular when they feel deficited (e.g. Abele & Wojciszke, 2007; Baumeister & Leary, 1995; Deci & Ryan, 2000; Ybarra et al. 2008). Baumeister and Leary (1995), for example, assert that "human beings have a pervasive drive to form and maintain at least a minimum quantity of lasting, positive, and significant interpersonal relationships" (1995: 497). They argue that at minimum, this need is provided for with a) frequent, b) emotionally pleasant interactions that c) occur to a stable degree d) over time (Baumeister & Leary, 1995). The work context generally meets Baumeister and Leary's (1995) basic requirements for establishing social relatedness.

The drive to seek out sources of warmth and acceptance is suggested to reduce in proportion to the degree to which needs are met. In other words, satisfaction leads to drive reduction for seeking out relationships with others (Hull, 1943). These minimal degrees of communion/belonging are stressed by and Baumeister and Leary (1995), who note that "People should show tendencies to seek out interpersonal contacts and cultivate possible relationships, at least until they have reached a minimum level of social contact and relatedness" (500), and after which, experience diminishing returns from making additional social attachments as satiation sets in. Thus, theories of this need generally

focus on the need itself and the importance of its satisfaction in motivating search behavior.

The relative availability of warmth has implications for the degree to which this quality is desired in a particular coworker. In particular, research by Dunbar suggests that there are three general categories of relational closeness. His social brain hypothesis (Dunbar, 1998) suggests that our cognitive capacities determine the elaborateness of our social worlds. Cross sectional observations suggest that our mental architecture supports 1) a very loose network of around 150 individuals (e.g. whose names we can be automatically recalled) and 2) a "sympathy group" of 12-20 individuals with whom people are in stable, but infrequent contact (i.e. around once per month) (Dunbar, 1998). The third category is made up of a close support group numbering three to five. Dunbar's (1998) work suggests that the number of people in our social support group represents the degree to which we are able to "simultaneously maintain a relationship of sufficient depth that they can be relied on to provide unstinting mutual support when one of them is under attack" (Dunbar & Spoor, 1995: 186).

Both the number and closeness of one's alternative relationships has implications for the relative degree of warmth a person may desire from a particular coworker. With regard to number, having less ties than the general network sizes reported above (i.e. a sympathy group of 12-20, a support group of three to five) may influence the degree to which an individual feels a need for warmth from a particular coworker. For example, if one is particularly lacking members of a close, social support group, then higher degrees of warmth might be sought from a coworker. As such, I expect that:

> *Proposition 4: The degree of desired interpersonal warmth from a particular coworker will be lower when the focal actor's needs for warmth are being satisfied by other relationships.*

If true, employees whose primary social engagement is with work colleagues (i.e. those who work long hours, have jobs that entail lots of travel and separation from other and potential relational partners) may desire higher levels of warmth from workmates. Warmth from coworkers may be becoming a more important resource as sociological

evidence suggests that the number of individuals who are missing the social support of close ties is on the rise.

Americans' absence of close ties appears to have quickly become drastically more pervasive in the United States. In their review and comparison of the 1985 to the 2004 General Social Survey, McPherson, Smith-Lovin, and Brashears (2006) highlight the number of Americans reporting no confidants tripling to become the modal response. Ego-network sizes also decreased, ties becoming more focused on parents and romantic partners, and the number of Americans reporting isolation from social support nearly doubled from a quarter in 1985 to nearly half of the population (McPherson, Smith-Lovin, & Brashears, 2006). These trends are particularly acute among middle class Americans who are highly educated (McPherson, Smith-Lovin, & Brashears, 2006; Putnam, 2000). Such social isolation has been suggested as a possible explanation for a standard deviation increase in neuroticism observed in children and adults from 1952 to 1993 (Twenge, 2000).

Interestingly, longitudinal meta-analyses suggest that individuals who are disposed to provide such support may also be in shorter supply, potentially increasing demand. A longitudinal meta-analysis of 72 studies from the late 1970 – 2009 find lower measures of empathic concern and perspective taking by college students. Using similar designs, other studies have found an increased prevalence in narcissism (Twenge et al. 2008) between 1982 and 2006.

Attachment styles and desired levels of warmth

The metaphor of a person being "warm" or "cold" most likely comes from the early-childhood experience of being held against one's parent and literally feeling warm (Lakoff & Johnson, 1980). Bowlby's theory of attachment (1958) was one of the first to strongly emphasize the importance of close relationships, in particular a child's relationship with their primary caregiver. His work with children suggested that the patterns of parents' caregiving behaviors strongly influence children's relational styles and the way they respond to potentially threatening situations, such as a parent leaving the room (Bowlby, 1982). A key premise of attachment theory is the idea that individuals are keenly affected by the degree to which others have responded with sensitivity and support to their needs in

the past. These experiences are said to dictate one's confidence that necessary support will be available in the environment in the future, with implications for one's orientation toward closeness with others.

More recently, researchers have extended these insights into the realm of adult relationships (Hazan & Shaver, 1987; Mikulincer, Shaver, & Pereg, 2003). Hazan and Shaver (1987) pointed out that adult relationships also entail an attachment process that can reflect one's global attachment style. They used agreement with the following questions to assess attachment orientations of study participants: *Secure*: "I find it relatively easy to get close to others and am comfortable depending on them and having them depend on me." "I don't often worry about being abandoned or about someone getting too close to me," *Avoidant*: "I am somewhat uncomfortable being close to others." "I find it difficult to trust them completely, difficult to allow myself to depend on them." "I am nervous when anyone gets too close, and often, love partners want me to be more intimate than I feel comfortable being," and *Anxious/Ambivalent*: "I find that others are reluctant to get as close as I would like." "I often worry that my partner doesn't really love me or won't want to stay with me." "I want to merge completely with another person, and this desire sometimes scares people away" (Hazan & Shaver, 1987: 515). The percentage of respondents identifying with these attachment styles were 56% Secure, 25% Avoidant, and 19% Anxious/Ambivalent – approximating the distribution estimates of earlier research (e.g. Campos et al., 1983).

Attachment theory highlights the importance of support from others who are sensitive to the needs of the focal individual. As described by La Guardia, Ryan, Couchman, and Deci in the need for relatedness literature, "Sensitive caregivers or relational partners display timely and appropriate responsiveness to the initiations, signals, and needs of the target individual" (2000: 368). Work colleagues represent a potential source of closeness and support, and differential predispositions toward closeness in adult relationships have clear implications for the degrees of warmth desired from coworkers. Individuals who identify their general relational style as anxious/ambivalent report a very strong desire for closeness with others. However, fear of rejection is also a constant concern (Mikulincer, Florian, & Tolmacz, 1990), and one that leads to less social support seeking (Florian, Mikulincer, & Bucholtz, 1995). High levels of warmth from a coworker

are expected to reduce fears of rejection. A strong need for closeness is likely to increase the desired level of coworker warmth. Thus, I hypothesize that:

> *Proposition 5: Anxious/ambivalent individuals will report a relatively high degree of desired warmth from colleagues compared to individuals with a) secure attachment styles and b) avoidant attachment styles.*

Perhaps surprisingly, I further suggest that *avoidant* employees will also prefer relatively high levels of warmth needs from coworkers. Agreement with questionnaire items such as: "I worry about someone getting too close to me." may, at first blush, seem to indicate that avoidant individuals prefer to be alone. But this is not necessarily the case. People with this attachment style report being lonely, are likely characterized as hostile and moderately anxious by peers (Kobak & Sceery, 1988), and are prone to depression and loneliness ascribed to social causes (Bartholomew, 1990). Avoidant individuals may also be more susceptible to emotions that are typically managed through social support (Kobak & Sceery, 1988). Additional evidence suggests that a subgroup of these individuals, the *fearful avoidant*, actually put a very high value on acceptance from others, though they avoid close relationships out of a fear of rejection (Bartholomew, 1990). Thus, because of their attachment history, avoidant persons may ultimately have greater difficulty in establishing the kinds of bonds with others that would greatly contribute to their well-being.

Research by Florian, Mikulincer, and Bucholtz (1995) finds that avoidant individuals are also less likely to seek out social support because they are attempting to keep themselves distant from others. However, I suggest that this tendency does not necessarily indicate a lack of desire for warmth and support from others. On the contrary, I suggest that avoidant individuals' pervasive tendency to avoid seeking social support when needed ultimately serves to increase the desired level of warmth from others to meet consistently unmet needs. I suspect that a fear of closeness merely complicates relationships with others on whom one would rely for addressing needs for warmth. As such, though uncomfortable offering closeness and being interdependent, I suggest that ultimately higher levels warmth from others are likely to be positively received by persons with an avoidant relational orientation.

Proposition 6: Avoidant individuals will report less degree of desired warmth from colleagues than a) employees with anxious/ambivalent attachment styles, b) but more than secure attachment individuals.

Finally, I suspect that securely attached individual's tendency to functionally seek out support, and the sense of security that comes from a history of having others respond with sensitivity to their needs (Bowlby, 1958) will result in relatively lower need for the reassurance of belonging and warmth from coworkers.

Proposition 7: Secure attachment employees will report the less need for warmth from colleagues than a) anxious/ambivalent of warmth or b) employees with avoidant attachment styles.

Importantly, recent research suggests that global attachment styles can change, seemingly as a function of recent relational experiences. LaGuardia and colleagues (2009) suggest that, "One possible interpretation of this is that the factors in a particular relationship affect people's attachment to that relational partner and that global attachment represents a kind of implicit average across important attachments" (369). Attachment styles can also shift within a particular relationship. Asendorpf and Wilpers (2000) find that the attachment style one has with a particular other varies with the degree and consistency of support one perceives from the other person – with changes in the latter leading to changes in the former. As such, an employee's degree of desired warmth from a particular coworker may change as a function of changes in one's attachment style within a relationship with that person, or as a consequence of changes in attachment style that occur through changes in one's other relationships.

Complementary competence of coworker as a predictor of desired warmth

As noted earlier, the positive emotional displays and interpersonal behaviors typically associated with warmth signal another's willingness to engage in exchange, as well as their trustworthiness as exchange partners – two critical considerations (Boone & Buck, 2003). Such invitations to exchange are likely to be particularly welcome from coworkers who possess complementary resources.

Social exchange of knowledge, skills, and abilities lacked by the focal employee, most obviously, can help the employee achieve goals that are otherwise beyond their limits. Further, in complementary resource exchanges, the value of both parties' respective resources are likely to be higher in the eyes of the beneficiary, thereby providing a particularly strong basis for the emergence and persistence of an exchange relationship (Blau, 1964).Working alongside someone with a very different skill set may also contribute to a high degrees of learning from the focal employee, as the learning curve when one has very little knowledge of an area is particularly steep (Ericsson & Charness, 1994). In addition, Flynn and Amanatullah (2010) have shown positive effects of merely working alongside a high performer with a different area of expertise (as opposed to in comparative performance scenarios), a finding they suggest occurs because high performers evoke more ambitious goal-setting from co-actors.

Exchanging with a coworker who possesses knowledge and abilities in the *same* domains as the focal employee, on the other hand, may be a more precarious basis for an exchange relationship. In the first place, exchanging similar resources invites direct comparison of the input/output ratios of respective parties. Given high sensitivity to parity in exchange (e.g. Adams, 1963), exchanging similar resources might increase the risk of perceived imbalance, compared to disparate resources that are more difficult to compare directly. Second, though exchanging resources with others who have similar and stronger competencies may help the focal actor achieve their goals, working with more skilled others can provoke face-threatening social comparisons (Buchs, & Butera, 2009) and undermine the ability to maintain a positive sense of self (Pfeffer & Fong, 2005). Relatedly, if the focal actor is accepting assistance from a coworker with more knowledge, skills and abilities in a shared expertise domain (or vice versa), the cost of reciprocation for the less skilled actor may be higher. Greater effort may have to be expended to repay a coworker for help the other produced more easily. Thus, exchanges of similar skills when one party is less skilled may ultimately require unsustainable effort investments on behalf of the less skilled party. Resources gained from a coworker with the same skill areas may facilitate the focal employee's goal attainment, but come at the significant cost of one's positive self-concept (Tyler & Blader, 2002) and sense of equity (Adams, 1963). As a

consequence, invitations to exchange with a more competent person who possesses overlapping skills may be less welcome.

> *Proposition 8: The degree to which a coworker is perceived to possess complementary competencies positively influences the desired level of warmth from that coworker.*

Desired Levels of Competence from Coworkers

We now turn to considering key antecedents to the degree of competence employees will prefer in a colleague – and especially cases where employees may want a coworker to be more or less competent.

Desired levels of competence from coworkers. How competitive am I?

Organizational and psychological researchers have identified a number of ways that comparing ourselves to others influences our behavior. Early research on motivation by McClintock and McNeel (1966a, 1966b, 1966c, 1967) suggests that people are compelled not only to maximize their own outcomes, but are especially motivated to outperform others (see also Spence & Helmreich, 1983). Individual differences in this tendency are captured by Messick & McClintock's (1968) Social Value Orientation – which assesses the relative weights people ascribe to their own and others' goals. Decades of studies posing a variety of self-other payoff structures to participants have revealed three common orientations. *Cooperative* individuals act to maximize joint outcomes for themselves and other participants, while *individualistic* persons focus exclusively on maximizing their own outcomes. A third group, *competitive* individuals, focus on maximizing the discrepancy between their outcomes and that of others (Messick & McClintock, 1968; McClintock & Allison, 2006).

The psychological climate literature argues that employees interpret and value dimensions of their environment in terms of meaningful personal outcomes (James, James, & Ashe, 1990). To the extent that maximizing differentials is seen by an employee as a meaningful goal, then coworkers may be seen as competitors in a variety of zero-sum games, and their competencies as a threat.

Proposition 9: Individuals who prefer to maximize discrepancies between their own outcomes and others' will prefer less competence in their coworkers.

Desired levels of competence in coworkers. What is my personal development orientation?

Recently, a new aspect of competitiveness has been proposed. Specifically, Ryckman, Hammer, Kaczor, and Gold (1996) have presented evidence for a competitive orientation focused on personal development – where competition is seen as an opportunity to learn about one's capacities and motivate one's self, as well as a chance to receive and provide encouragement to others. Thus, in contrast with the discrepancy maximizing form of interpersonal competitiveness discussed above, individuals with a *personal development competitiveness orientation* focus on developing mastery rather than winning. Those with a personal development focus see others as "helpers who provide the individual with personal discovery and learning opportunities" (Ryckman et al., 1996: 375). As such, coworker's competencies should be seen by such individuals as potential sources of personal growth. Individual dispositions highlighted in the organizational literature such as learning orientation – referring to the degree to which individuals focus on developing competence and mastery (Farr, Hofmann, & Ringenbach, 1993), may be linked to such a stance toward coworkers.

Proposition 10: An employee's personal development orientation will be positively related to the degree of competence desired in a particular coworker.

Desired levels of competence in coworkers. Are you inclined to cooperate with me? Coworker's warmth as a predictor of desired levels of coworker competence

The proceeding sections suggest that individual differences in a focal actor can influence the extent to which a coworkers' competence is seen as an opportunity for growth, or a threat to the self. However, features of the environment (which, in the person-person fit literature, refers to the coworker) may also influence the amount of competence that is desired from a coworker.

In particular, while another's competence is usually thought of as their ability to achieve their own goals, to the extent that a coworker extends their circle of concern to the focal employee, then the coworker's competence becomes an interpersonal resource. As Cuddy, Fiske, and Glick (2008) point out in their work on interpersonal perception, "actors distinguish individuals and groups according to their likely impact on the self or ingroup as determined by perceived intentions and capabilities" (63). As warmth is related to one's tendency to behave in a prosocial manner, and warm behaviors are a signal of willingness to engage in interpersonal exchange (Boone & Buck, 2003), a focal employee is likely to desire high levels of competence from warm coworkers who are willing to be of benefit.

Recent research suggests that positive interpersonal affect *from a focal employee* directed *towards a coworker* is an important predictor of whether that coworker will be approached for task assistance. Casciaro and Lobo (2008) found that affect was a more important predictor than coworkers' competence of who is approached for assistance, with positive and negative affect toward the other positively and negatively influencing reliance on others (respectively). For the reasons highlighted above, I suggest that positive interpersonal affect from a coworker (along with other signals of warmth) will also be linked to higher levels of desired competence in that coworker, and as such:

> *Proposition 11: Employees will prefer higher (lower) levels of competence in a colleague they perceive as more (less) warm.*

Structural competition and desired levels of competence in others

Beyond the characteristics of the coworker, situational factors may also influence the degree of desired competence we seek in others. In particular, the degree to which work situations are structured such that employee outcomes are negatively or positively interdependent (Deutsch, 1949) is likely to influence the degree to which a coworker is compelled to share their competencies in ways that benefit a focal employee, or assert those competencies in ways that undermine goal attainment for the focal actor. As such, desired level of competence in a coworker should depend on the degree of cooperation or competition in the relationship between actors as dictated by the situation.

Competitive situations are defined as those in which individuals are vying for scarce resources that are distributed in a mutually exclusive fashion, whereby one individual's rewards result from others receiving none or less of performance contingent resources – what Deutsch (1949) called "contriently interdependent" resources. Common examples of structural competition may include a reward for the associate who achieves the highest number of sales, "best performer" recognition, or differential investments in employee development, or promotions.

In such contexts, the competencies of others may still have value in that coworkers may exchange their knowledge and skills instrumentally. This may be done to the extent that they are confident that such temporary alliances contribute to personal goals (Blau, 1964; Morril, 1995) and does not significantly advantage the other in ways that risk one's own chance at winning. However, given the risks of losing when competing against highly competent others in competitive scenarios, the (real or felt) potential that exchanging competencies may be self-defeating, and the likelihood that highly competent coworkers will have multiple alternative potential partners with whom to exchange leads us to suspect that:

> *Proposition 12: To the extent that the focal employee's own goal attainment is undermined by a coworker achieving their own goal(s), then the degree of competency desired in that coworker will be low.*

Structures of positive interdependence and desired levels of coworker competence

A variety of terms refer to structures whereby individuals benefit from working with others. Cooperation refers to the relationship built on endeavoring toward a shared goal (Mead, 1934). Alternately, Deutsch discusses positive interdependence (1949) – referring to scenarios where others' attainment of goals is linked to one's own goal attainment. In both cases, individuals may benefit from the striving of coworkers, and as such, coworkers' competence – their ability to achieve their ends – becomes a resource to the focal employee. Supporting this notion, Abele and Wojciszke (2007) find that agentic characteristics in others are considered to be more important when the other's outcomes are seen as interdependent with those of the focal actor. On this basis, they argue that,

"The more there is interdependence between the self and the other, the more agency [competence] becomes other profitable and socially useful." (Abele & Wojciszke, 2007: 753). Thus:

> *Proposition 13: To the extent that one's own goal attainment is facilitated by a coworker achieving their own goal(s), then the degree of competency desired in that coworker will be high.*

Of course, in many organizational contexts, coworkers are simultaneously collaborative partners and potential opponents in the pursuit of bonuses, promotions, and institutional power. In these mixed motive situations (Komorita & Parks, 1995; Kelly et al., 2003), employees are likely to be ambivalent in terms of their preferred degrees of coworker competence.

PERCEPTUAL BIASES

An employee's perceptions of a coworker's warmth and competence do not necessarily reflect the objective degree of prosocial intent or competence of that coworker. Such perceptions can be subject to a variety of biases. Stereotypes about the group a coworker belongs to, for example, may distort perceptions of both coworker warmth and competence. Cuddy, Fiske, and colleagues (Cuddy et al., 2009; Fiske et al., 2002; Fiske et al., 2008) show evidence that sociodemographic groups are pervasively categorized along the dimensions of warmth and competence. The warmth and competence assessments of groups predict the nature of the discrimination members of particular groups are likely to encounter and feed into perceptions of those group members (Fiske et al., 2008). Professionals who become mothers, for example, make gains in others' perceptions of their warmth, but lose in others' assessments of their competence, whereas new fathers gain in perceived warmth, but competence assessments are unchanged (Cuddy, Fiske, & Glick, 2004). In a series of studies across twenty cultures, Cuddy and colleagues (2009) show that competent stereotypes are associated with high-status groups, and to a lesser extent, that cold stereotypes are associated with groups that are in competition with the assessor's in-group (see also Fiske et al., 2002; Poppe, 2001). As convincingly demonstrated by prior

research, impressions of coworker warmth and competence are likely to be anchored by the stereotypic associations with the target's group-memberships.

> *Proposition 14: Perceived coworker warmth will be related to a focal employee's attribution of warmth to the sociodemographic group(s) to which the coworker belongs.*
>
> *Proposition 15: Perceived coworker competence will be related to a focal employee's attribution of competence to the sociodemographic group(s) to which the coworker belongs.*

Furthermore, Florian, Mikulincer, and Bucholtz (1995) have argued that the differences in relationships qualities reported by individuals with different attachment styles may be, in part, perceptual. They suggest a dynamic whereby past experiences in patterns of support from others contribute to patterns of support seeking in the future. As a consequence, individuals with secure attachment styles are more likely to look for (and hence perceive) support from others (Butzel & Ryan, 1997; Shaver & Hazan, 1993). On the other hand, individuals with insecure attachment styles:

> "[G]row up with worries about the intentions and responses of significant others. They may perceive the surrounding social world as a threatening place and may be afraid and/or unwilling to rely on social interactions for help coping with life's adversities (see, e.g., Hazan & Shaver, 1987). This basic mistrust is reflected in insecure persons' tendency to perceive a relatively low level of available instrumental and emotional support from others and their relatively low tendency to seek social support in times of need" (Florian, Mikulincer, & Bucholtz, 1995: 673).

As such, attachment styles may influence perceived coworker warmth in that beliefs about the environment affect the receipt and interpretation of signals of other benefiting intent from others. This bias may become self-fulfilling as beliefs about the low availability of social support lead to less support seeking from others, and as such, the receipt of less support seems to confirm the initial bias.

> *Proposition 16: A focal employee's perceptions of a coworker's warmth will be related to the focal employee's attachment style. Specifically, individuals with secure attachment styles are suggested to perceive more warmth from coworkers.*

Through their influence on the tendency to be close with others, attachment styles may also influence perceived competence of coworkers. Closeness between parties may be more than just a conduit for support. In the networks literature, Levin and Cross (2004) point out that, "as the two parties develop a strong tie, each calibrates on the other's true skills and expertise and so learns to seek advice in those domains in which the other person is competent (Rulke & Rau 2000)" (1480). Thus, attachment tendencies may directly influence competence perceptions in others through their influence on interpersonal proximity. Based on our earlier discussion of the tendency for insecure individuals to have greater difficulty establishing the close relationships that would help to make salient others' competencies, I predict that:

> *Proposition 17: The accuracy of a focal employee's perceptions of a coworker's competence will be related to the focal employee's attachment style. Specifically, individuals with insecure attachment styles (i.e. anxious/ambivalent and avoidant) are suggested to have less accurate perceptions of a coworker's competence.*

IMPORTANCE OF WARMTH FIT AND COMPETENCE FIT

As noted in the prior discussion, a number of factors are likely to influence the amount of warmth and competence that is desirable in a coworker. Similarly, the importance assigned to an employee's warmth and competence fit with a coworker is also likely to be contingent. In an earlier discussion of social value orientations, I highlighted three distinct orientations toward others: cooperative, individualistic, and competitive. In the discussion of desired warmth as a consequence of one's own desire and ability to reciprocate, I noted the work of Dawes and colleagues (1977) on the tendency for individuals to presume one's own predisposition toward exchange from others (Van

Lange, 1997). Expectations and assumed similarity in the SVOs of others provides one explanation for the finding that more benevolent persons tend to evaluate others more strongly on dimensions such as cooperativeness and morality. Cooperative individuals would be disproportionately, negatively affected by exchanges with non-generous others because they may be more vulnerable to exploitation. In line with these arguments, I suggest that:

> *Proposition 18: A focal employee's inclination to benefit others will positively influence the importance of desired warmth fit with coworkers.*

Meanwhile, *individualists* and *competitors* weigh others' agentic traits (e.g. intelligence) more strongly (Liebrand et al., 1986). If one's goals in exchange are maximizing discrepancies or reciprocal trade, other's power and potential resources are central considerations. Given the importance placed on agentic characteristics by individualist and competitive actors:

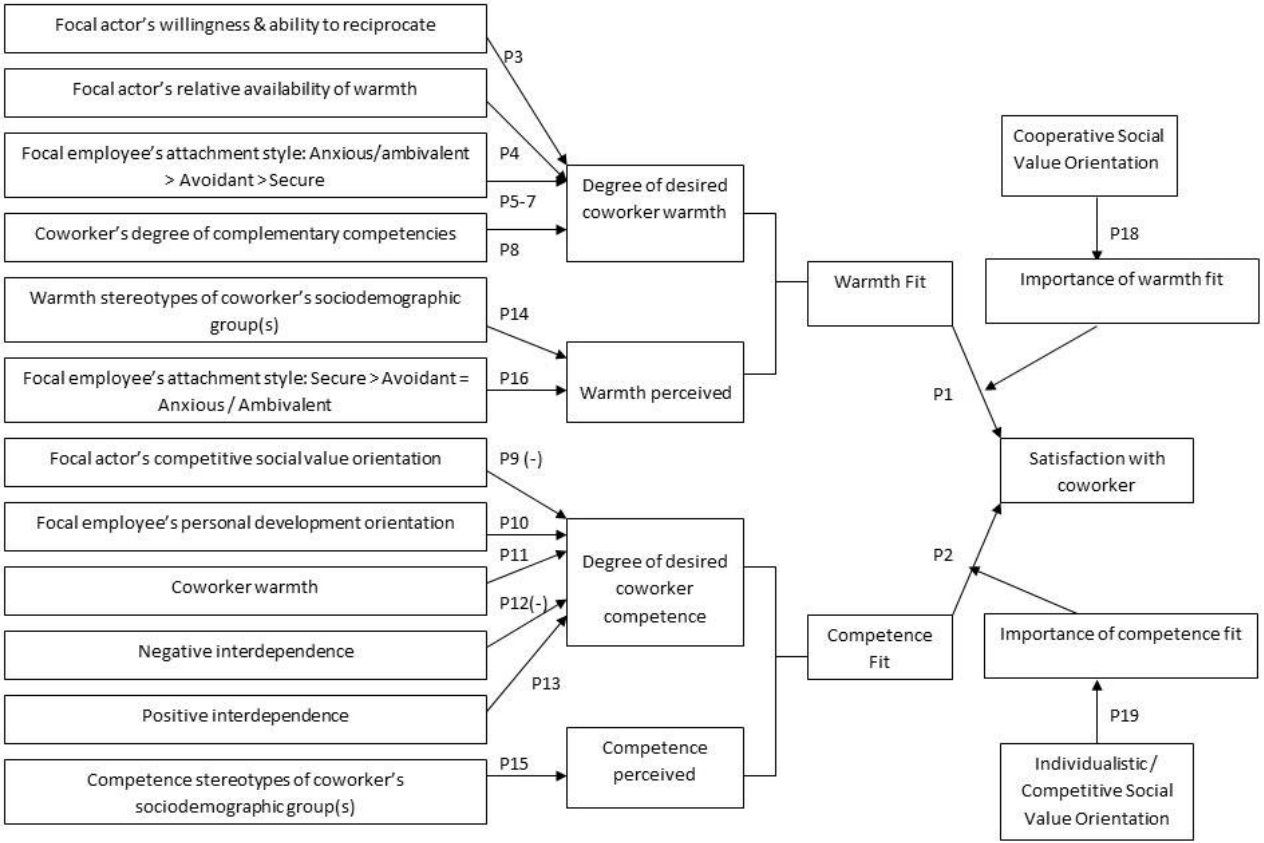
> *Proposition 19: A focal employee's orientation to pursue self-interest will positively influence the importance of desired competence fit with coworkers.*

CONSEQUENCES OF WARMTH & COMPETENCE FIT

As noted in the section on the functional form of fit above, I predict that the an employee will be more satisfied with a specific coworker to the extent that the coworker possesses the desired levels of warmth and that the coworker's warmth fit is important to the focal actor (Equation 1), and to the extent that the coworker provides the desired levels of competence and that the coworker's competence fit is important to the focal actor (Equation 2). Thus, the proximal consequence of Person-Person fit is satisfaction with a coworker. This choice of outcome variable is consistent with the vast majority of prior Person-Environment fit theories, which have focused on affective reactions to the cognitive appraisal of the discrepancy between needs and supplies (e.g. Breaugh, 1992; Dawis, 1992; Dawis et al., 1964; French et al., 1974; Harrison, 1978; Locke, 1976; Wanous, 1980).

The phrase "coworker satisfaction" is a conceptual cousin to supervisor satisfaction, in that it assesses the global positive-negative feelings towards a particular person with which the focal employee works (Simon, Judge, & Halvorsen-Ganepola, 2010; Spector, 1985). Importantly, the goal is to assess feelings about a particular coworker rather than coworkers in general, and thus existing scales (e.g. Bishop & Scott, 2000; Spector, 1985) need to be adjusted. Although there is comparatively little research on satisfaction with a particular coworker, there is an emerging body of literature suggesting that the behaviors of and attitudes toward coworkers are very important for desirable outcomes. For example, satisfaction with coworkers has been linked to turnover and intentions to leave (Spector, 1985; Feeley, Hwang, & Barnett, 2008), job satisfaction and commitment (Brief & Aldag, 1980; Mathieu & Zajac, 1990; Simon et al., 2010), team commitment (Bishop & Scott, 2000), interpersonal and organizational deviance (Liao, Joshi, & Chuang, 2004), and life satisfaction (Simon et al., 2010). Meanwhile, those employees who claim even a single close relationship with a coworker also report greater engagement and performance, (Gallup, Inc. 2012), and experience more satisfaction at work (Rath, 2006). The relationships hypothesized above are summarized below in Figure 2.

Figure 2: Theoretical Model of Warmth and Competence Fit



DISCUSSION

In this article, I built on insights from psychological need satisfaction and interpersonal perception to identify two fundamental dimensions of fit with coworkers. Specifically, I suggest that a match between an employee's desired levels of warmth and competence and their provision from coworkers are likely to be primary components of employees' experienced fit, and ultimately coworker satisfaction. I further identified factors likely to influence the degree of warmth and competence desired from coworkers. With regard to warmth, willingness to reciprocate others' benevolent intentions, relative availability of warmth from other relationships, complementary competencies, and attachment styles were each suggested to influence the degree of warmth preferred in a coworker. Alternately, antecedents of desired competence proposed include focal employee competitiveness, personal development orientation, as were "external factors", such as coworker warmth, negative interdependence (i.e. situational competitiveness), and positive interdependence (i.e. situational cooperativeness). Factors that may bias perceptions of coworker warmth and competence were also considered, namely warmth and competence group stereotypes, and attachment styles. Finally, I considered how the weight of warmth and competence fit is influenced by the focal employee's social value orientation. Thus, the most direct contribution of the article is to the P-E fit literature, which has currently has no major Person-Person theory of fit.

The research presented here also has implications for the literatures it draws from. Needs research, for example, typically conceptualizes the need for competence as driving an individual's search for challenge and mastery experiences (e.g. White, 1959). Here, I have stressed the importance of how need for competence can be satisfied interpersonally. Also, the needs literature has placed considerably less focus on the factors that influence varying degrees of need for warmth and competence sought from others, or how these individual needs are provided by the interpersonal environment (Deci & Ryan, 2000). Here I explored a variety of antecedents to need variation across coworker relationships.

In addition, the theory of P-P fit developed here has implications for a number of other ongoing discussions within organizational behavior scholarship. Below, I highlight

the implications for research on trust and leadership. First, trust in coworkers has a direct influence on the performance of dyads (Kimmel et al., 1980; Schurr & Ozanne 1985), groups (Dirks, 1999; Dirks, 2000; Kegan & Rubenstein, 1973; Klimoski & Karol 1976), and business units (Davis et al., 2000). These benefits are suggested to occur through the positive relationship between trust and cooperation and attitudes (Golembiewski & McConkie, 1975; Jones & George, 1998). As noted previously, coworker benevolence/warmth and competence can constitute distinct bases of trust and have separable affects on information exchange (Levin & Cross, 2004; Mayer et al., 1995). However, in considering variables like coworker benevolence/warmth and competence from a fit perspective, I have pointed out that these qualities are not necessarily always desired in the highest quantities from others. On the contrary, a variety of dispositional and environmental factors can influence the degree of warmth and competence we prefer in others. Thus, implications of the theory here include the idea that trusting behaviors will not always follow from perceived benevolence and competence. For example, paralleling propositions 12 and 13, in a mixed motive situation where there are both benefits and risks to cooperation, a competent coworker may actually be less trusted than an incompetent coworker, simply because there are more ways to sanction a weak coworker who defects. Other interesting propositions can be derived from applying this theory of P-P fit to the question of which coworkers to trust. For example, the focal actor may not always actively trust someone they find trustworthy, since actively trusting others may come with perceived obligations. Paralleling propositions 3 and 4, even if a coworker is both benevolent/warm and competent, if the focal actor already has a surplus of valued exchange partners, to actively trust a coworker is to invite them into a special relationship that comes with responsibilities to reciprocally care for that coworker. Thus, since making oneself vulnerable is part of deepening relationships (Ferris et al., 2009), and deep relationships come with deep obligations, there may be situations were focal actors are unwilling to make themselves vulnerable (i.e. to trust) to people they find trustworthy (i.e., benevolent/warm and competent coworkers).

In addition, there are implications for the leadership literature from this theory of P-P fit. I consider leaders to be a special kind of coworkers. Thus, this theory should predict satisfaction with leaders. Satisfaction with leaders, in turn, predicts follower

commitment (Johnson & Chang, 2008), physical symptoms of ill-health (Schaubroeck & Fink, 1998) and turnover (Griffeth, Hom, & Gaertner, 2000). Non-intuitive implications I would predict are that supervisors can be too warm for comfort (proposition 1), and that some competitive individuals may be more satisfied with weak supervisors (proposition 9).

Future Research

Future research should test the propositions developed in this article. According to Edwards and colleagues, there are three approaches to measuring fit: "*atomistic*, which examines perceptions of the person and environment as separate entities; (b) *molecular*, which concerns the perceived comparison between the person and environment; and (c) *molar*, which focuses on the perceived similarity, match, or fit between the person and environment" (2006: 802). Combining fit scales developed by Edwards and colleagues (2006: 827), and Cable and Edwards (2004: 825) with warmth and competence scales measured by Cuddy and colleagues (2009: 33) would allow for a nuanced exploration of how warmth and competence needs and resources relate to fit, and its consequences.

Conclusion

The interpersonal dimension of work has significant consequences for employees in terms of their satisfaction, performance, and career outcomes (Adkins, Ravlin, & Meglino, 1996; Antonioni & Park, 2001; Graves, & Powell, 1995; Ferris & Judge, 1991; Ferris et al., 2009; Schaubroeck & Lam, 2002; Tsui & O'Reilly, 1989; Turban & Jones, 1988). Understanding the underlying dimensions that contribute to effective relationships at work can enable managers to understand how to select employees and arrange interdependencies to create more satisfied and effective employees. The theory developed in this article suggests that of the dimensions of warmth and competence constitute important employee needs, as well as critical resources that the interpersonal context of an organization can provide. In outlining the factors that determine the degree of desired warmth and competence, as well as factors that influence the perception of those resources in the environment, I hope this article can advance our understanding of Person-Person fit at work.

Chapter 3: Coworker Satisfaction in 3D: Personality as a Predictor of Perceiver, Partner, and Relational Coworker Satisfaction

ABSTRACT

The research presented here provides important insight into the phenomenon of coworker satisfaction – a key dependent variable in many areas of organizational behavior research, as well as an important end in itself. I identify three distinct sources of coworker satisfaction: the general tendency of a person to experience satisfaction with coworkers (perceiver CWS), the general tendency of an individual to evoke coworker satisfaction from others (partner CWS), and coworker satisfaction that is specific to the relationship between two individuals (relational CWS). Using Social Relations Modeling to analyze 3,412 round robin coworker satisfaction ratings from members of 178 business case teams, I find support for these three distinct dimensions of CWS. Further, I provide evidence of particularly strong perceiver and relational effects in coworker satisfaction. In addition, I find support for agreeableness and partner competence in predicting these distinct dimensions, and present exploratory findings for the other Big Five dimensions. The links between relational CWS, agreeableness, and extroversion (respectively) are tested using polynomial regression and Response Surface Analysis. Implications of these findings for management scholarship and practitioners are explored.

As a part of overall work satisfaction, a precursor to a variety of organizationally valued outcomes, as well as an important end in and of itself, coworker satisfaction is a phenomenon worthy of attention. Simon, Judge, and Halvorsen-Ganepola (2010) have found that satisfaction with one's coworkers is a key component of work satisfaction, and is also strongly related to life satisfaction (see also Smith, Kendall, & Hulin, 1969; Weiss, Dawis, England, & Lofquist, 1967). Coworker satisfaction also appears to play a key role in peoples' decisions to stay in their organizations, teams, and even careers. Griffeth, Hom, and Gaertner's (2000) meta-analysis finds significant corrected correlations between turnover and general coworker satisfaction (-.13), satisfaction with group members (-.13), and supervisor satisfaction (-.13). Bishop and Dow (2000) find links between coworker satisfaction and organizational, as well as team commitment. And in a recent meta-analysis, coworker satisfaction predicted occupational commitment as strongly as pay (Lee, Carswell, & Allen, 2000). As such, beyond its intrinsic value for employees, coworker satisfaction has links to a variety of important organizational concerns.

Though often measured and linked to important phenomena in organizational behavior research, coworker satisfaction has received little direct attention or development as a construct (Bowling, Hendricks, & Wagner, 2008; Spector, 1997). In particular, the dominant conceptions and measures of coworker satisfaction have yet to be informed by some of the theoretical and methodological advances associated with other relationally emergent phenomena (e.g., Edwards & Parry, 1993; Kenny, 1994). In the majority of studies in which it is measured, participants are asked to rate satisfaction with coworkers in general, or alternately, with regard to a single other. Such measurement obscures the role of the rater, the partner, and the relationship (respectively) in the experience of coworker satisfaction. Specifically: Are some employees generally more satisfied with their coworkers? Do some individuals tend to engender feelings of interpersonal satisfaction from others? Finally, beyond these general tendencies, to what extent is coworker satisfaction specific to the relationship of two particular individuals? And if so, how big of a role does each source of satisfaction play in ratings of coworker satisfaction? The answers to these questions have broad and significant implications for how organizations choose leaders, make staffing decisions, structure interdependencies, assign employees to

teams, and the matching of mentors and mentees, and supervisors to subordinates. Beyond the value in selecting individuals and arranging employee interlinkages to maximize coworker satisfaction itself, composing interdependencies in such a manner may provide a way in which companies can reap the benefits of lower turnover, improved commitment, and other valued outcomes.

The research presented here offers important new insights into coworker satisfaction as a perceptual, evoked, and emergent relational phenomenon, and elucidates for managers and researchers characteristics that predict these aspects of coworker satisfaction. To preview, I first consider how coworker satisfaction has been thought about and measured to date. Then, building on theoretical and methodological tools from Kenny (Kenny, Kashy, & Cook, 2006; Kenny, 1994), I suggest three dimensions of coworker satisfaction (CWS): a person's general tendency to feel satisfied with coworkers (perceiver CWS), the tendency for an individual to evoke feelings of coworker satisfaction from their colleagues (partner CWS), and coworker satisfaction variance that is specific to a relationship with a particular coworker (relational CWS). Disentangling these sources of variance in CWS also allows researchers to identify the predictors and consequences related to each aspect of coworker satisfaction. Here, I consider their relation to Big Five dimensions of personality as well as coworker competence. Perceiver CWS is considered in relation to agreeableness, a characteristic strongly linked to perceptions of others and an other-benefiting orientation (Costa & McCrae, 1992; McCrae & John, 1992). Partner CWS is also considered with regard to a partners' orientation toward others, as well as their competence – characteristics that have been shown to dominate how we perceive others (e.g., Asch, 1946; Bakan, 1966; Cuddy, Fiske, & Glick, 2008; Cuddy, Glick, & Beninger, 2011; Fiske, Cuddy, & Glick, 2007; Fiske, Xu, Cuddy, & Glick, 1999; Rosenberg, Nelson, & Vivekananthan, 1968; Wojciszke, Bazinska, & Jaworski, 1998). Finally, I examine the influence of the degree of interpersonal similarity on the dimensions of agreeableness and extroversion (respectively) as predictors of relational CWS. To assess these relationships, I test for the 3 components of coworker satisfaction with 3,412 round robin coworker satisfaction ratings from business students nested in 178 business case development teams. Social Relations Modeling is used to separate out the unique roles of perceiver, partner, and relational effects. To assess the role of dyad members' personality characteristics in

predicting relational CWS, polynomial regression and Response Surface Analysis (RSA) are employed to account for the effects of component values and provide a strong test of how exactly absolute personality diversity influences the uniquely relational component of coworker satisfaction. In closing, I explore how the three dimensions coworker satisfaction and their predictors can inform future research. I also consider their implications for practice, specifically for staffing decisions and the structuring of interdependencies among employees in organizations.

CONCEPTUAL BACKGROUND

Conceptions of Coworker Satisfaction

In the organizational behavior literature, coworker satisfaction has been conceptualized in a variety of ways. In the fit literature, where satisfaction with elements of the work environment is a key dependent variable (Breaugh, 1992; Dawis, England, & Lofquist, 1964; French, Rodgers, & Cobb, 1974; Kristof-Brown, Zimmerman, & Johnson, 2005; Locke, 1976), satisfaction is conceptualized (and measured) as an affective outcome – specifically affect that results from the discrepancy between what the focal individual desires from versus what is present in the environment. As Edwards and Shipp (2007) point out, this affective conception of satisfaction is consistent with Lazarus' (1991) suggestion that emotions are indicative of the perceived impact of a stimulus on the focal actor's goal attainment. In the case of coworker satisfaction, this conceptualization suggests that a colleague may evoke positive interpersonal affect (i.e. satisfaction) to the extent that they are perceived to contribute to the achievement of the focal actor's goals.

Research from the work satisfaction tradition has variously conceptualized coworker satisfaction as interpersonal liking (e.g., Spector, 1985: "Today, I liked the people I work with very much." "Today, I enjoyed my coworkers"; Weiss et al., 1967: "Today, I felt very friendly toward my coworkers"), perceptions of the cooperative work experience (e.g. "enjoying the work experience", "getting the job done",Tett & Murphy, 2002), and combinations of these two elements (e.g., Bishop & Dow Scott, 2000; Hackman & Oldham, 1980)[1].

[1] Another popular measure of coworker satisfaction in this literature is also one of the very first – the coworker satisfaction subscale from Smith and colleagues' (1969) Job Descriptive Index (JDI). Still in use in its original

Research by Beehr and colleagues (2006) suggests that coworker satisfaction and liking are tightly linked. In their study of supervisor satisfaction with subordinates, participants were provided with both a liking scale (e.g. ''I like this person very much.'') and a scale focused on affective satisfaction derived from working with subordinates (e.g. "Overall, I am very pleased to have this person work for me". These two scales were highly correlated (e.g. r = .73), and by some standards, would be considered indicative of the same latent variable (Le, Schmidt, Harter, & Lauver, 2010). Such research suggests that measures of affective coworker satisfaction and interpersonal liking have a great deal of empirical overlap.

There is also a great deal of conceptual agreement in that both the fit and work satisfaction literatures recognize satisfaction as a discrete, desirable, and affective phenomenon. However, to date, these literatures have been nearly silent on the subjective, perceptual nature of interpersonal affect – and the variety of factors that may drive an individual's experience of satisfaction with coworkers. Recognizing that coworker satisfaction is not only affective, but fundamentally premised in interpersonal perception allows for a considerably richer understanding of the sources from which this phenomenon emerges. As will be explored in the following pages, a variety of factors influence how we tend to perceive others, how we are generally perceived by others, and the perceptions that emerge within a particular relational context.

The fit and CWS literatures are also similar in that both tend to use research designs that entail measuring coworker satisfaction with a single alter (i.e. CWS with a particular coworker or CWS with one's coworkers overall) at one point in time. Such designs obscure the influence of the perceiver, the partner, and the relationship (respectively) on coworker satisfaction. Without disaggregating these effects, it is unclear how predictors of coworker satisfaction are having their effects – whether the influence is on the perceptual tendency of the perceiver, the way the partner is generally are perceived by others, or the specific pairing of the two individuals absent these two effects. In the following section, I explore the research design and methodology necessary to make these

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form (e.g. Brief & Aldag, 1980; Kristof-Brown & Stevens, 2001), as well as in its updated version by Roznowski (1989) (e.g. Liao, Joshi, & Chuang, 2004), this scale is not focused on interpersonal affect per se. Rather, respondents are asked to report on whether their coworkers can be described by 18 negatively and positively valenced adjectives (e.g. stimulating, boring, ambitious) (Smith et al., 1969).

distinctions, their contributions to other relational literatures thus far, and develop hypotheses regarding these dimensions of coworker satisfaction. I turn to these considerations below.

COWORKER SATISFACTION IN THREE DIMENSIONS: THE SOCIAL RELATIONS MODEL

The key idea behind Kenny's (1994) Social Relations Modeling (SRM) methodology is that many of the things we think of as discrete, dyadic phenomenon can actually be attributed to three sources (and error). Specifically, interpersonal perceptions and behaviors that occur in dyadic contexts can reflect: (1) the tendencies of the focal actor, (2) the evocative tendencies of the interaction partner, (3) or be relationally emergent – attributable to neither dyad member's general tendencies, but a consequence specific to the particular relationship between the two individuals. And indeed, this lens has proven useful in unpacking a variety of interpersonal phenomena, from friendship (Back, Schmukle, & Egloff, 2008), trust (J. Z. Bergman, Small, S. M. Bergman, & Rentsch, 2010), and rivalry (Kilduff, Elfenbein, & Staw, 2010), to fighting among middle school students (Card & Hodges, 2010). The SRM approach has also revealed the interpersonal nature of seemingly individual tendencies, such as self-esteem (Back, Krause, et al., 2009), dysphoria (Marcus & Askari, 1999), and self-disclosure (Miller & Kenny, 1986).

In the case of coworker satisfaction – as an affective, interpersonal, dyadic phenomenon – I predict that there will be stability in one's coworker satisfaction across coworkers (perceiver CWS), stability in others' coworker satisfaction ratings of a particular target (partner CWS), as well as variance in coworker satisfaction uniquely attributable to a particular other (relational CWS) when holding the other effects (and error variance) constant.

These assertions are supported by the fact that the conceptualization of coworker satisfaction presented here and in the literature more generally (Bishop & Dow Scott, 2000; Simon et al., 2010) is in part reflective of interpersonal liking (see also Beehr et al., 2006). Interpersonal liking has received some attention within the SRM literature (though not in the context of work relationships) as a phenomenon which is attributable to these three sources (Back et al., 2008; Chapdelaine, Kenny, & LaFontana, 1994; Miller, 1990;

Montgomery, 1986; B. Park & Flink, 1989; Whitley, Schofield, & Snyder, 1984; Zimmer-Gembeck, Waters, & Kindermann, 2010).

To date, no work has considered these sources of variance in affective reactions to coworkers using SRM. However, it has been argued that *peer evaluations* are likely to reflect the non-independence of a within rater tendency, a partner effect, and variance attributable to the combination of particular coworkers (Hennen & Barnes-Farrell, 1997). Support for this claim has been found by Greguras, Robie, and Born (2001). In their social relations analysis, assessments of peer cooperation, ideas, effort, reliability, quality, and overall performance, all showed significant perceiver effects (2001).

Though this is the first study to investigate perceiver CWS, there is reason to suspect that dispositional factors may drive tendencies in an individual's level of satisfaction. For example, correlations in job satisfaction among monozygotic twins raised apart, and holding job characteristics constant (Arvey et al., 1994) have been explained by some researchers as indicative of the role of genetics in satisfaction (Arvey, Bouchard, Segal, & Abraham, 1989; Ilies & Judge, 2003). The stability of satisfaction assessments over time (e.g., Kinicki, McKee-Ryan, Schriesheim, & Carson, 2002; Staw, N. E. Bell, & Clausen, 1986) has also been interpreted as suggestive that satisfaction with aspects of the work environment are dispositionally rooted in the perceptual tendencies of individuals. The natural critiques of such interpretations from correlational research designs came from Davis-Blake and Pfeffer (1989), who express general skepticism for a strong role of dispositions in organizational contexts, and argued for the more pervasive and careful use of controls as a way to better understand the meaning behind such relationships. Another way to begin to address Davis-Blake and Pfeffer's concerns is through the use of Social Relations Modeling and repeated measure designs. While still leaving room for interpretation as to the potential mediating or causal roles of other factors, measuring stability in perceiver response in the face of varying the stimuli at the same point in time is one way to have greater confidence that individual (rather than contextual) factors and having an influence on satisfaction.

The logic and methodologies of Social Relations Modeling suggests that we can unpack this unique source of variance in CWS with particular analytic tools and research designs (Kenny, 1994). In particular, interpersonal perceptions of an individual can be

measured across a variety of interaction partners. The goal of such repeated measurement is to isolate a perceiver's general tendency to respond to others in a characteristic, undifferentiated way. In the case of coworker satisfaction, *perceiver CWS* refers to an individual's general tendency to be satisfied with their coworkers.

> *Hypothesis 1: Individuals will evidence general tendencies to experience satisfaction with their coworkers (perceiver CWS).*

In addition to the tendency of individuals to perceive in a characteristic way across all partners, partners may also evoke a consistent degree of satisfaction from others. In SRM, the portion of the variance in behavior or perception that is consistently *evoked* by a focal individual from their partners is referred to as a *partner effect*. This effect can be captured through the use of round robin research designs in which a variety of raters assess the same target, and measured as the degree of non-independence across these ratings.

Evidence in favor of such partner effects comes from Greguras and colleagues' (2001) social relations analysis of peer evaluations mentioned earlier, which found significant evidence of partner effects in peer evaluations of cooperation, ideas, reliability, and overall performance (though not effort and quality). Given that peer evaluations show partner effects, one could expect that the affective response to a coworker – which are in part a reflection of personal evaluations of the cooperative work experience (Bishop & Dow Scott, 2000; Hackman & Oldham, 1980; Tett & Murphy, 2002) – would lead to partner effects in coworker satisfaction. Further support of a potential partner effect comes from research by Back, Schmukle, and Egloff (2008) who, in a non-work context, documents partner effects in liking. As noted earlier, liking has been both used to measure coworker satisfaction, as well as strongly correlated with "non-liking based" coworker satisfaction measures (Beehr et al., 2006; Spector, 1985; Weiss et al., 1967).

Theoretically, such findings suggest that individuals behave and evoke responses from others in characteristic ways – a claim that is supported by a great deal of personality research on the stable, dispositional drivers of interpersonal behavior (Costa & McCrae, 1992; McCrae & Costa, 1987). In my consideration of the predictors of partner CWS later on, I go into greater detail regarding qualities which are likely to generally be positively perceived by others.

Hypothesis 2: Individuals will evidence general tendencies to evoke satisfaction from their coworkers.

Thus far, I have considered perceiver effects in coworker satisfaction across partners, and the influence of partners in evoking satisfaction generally, across a range of others. With perceiver effects, coworker satisfaction is stable regardless of the characteristics of the partner. With partner effects, a coworker is able to elicit a certain degree of satisfaction regardless of the perceiver. Relational coworker satisfaction, on the other hand, refers to the satisfaction that emerges as a function of the particular coworker, absent the general tendencies to perceive, or the partner's general ability to provoke CWS.

A considerable body of work has attempted to predict the effects of coworker similarity, such as research on selection and the similarity between recruiter and applicant (Graves & Powell, 1995), contextual performance as a consequence of person-supervisor fit (Antonioni & H. Park, 2001), performance ratings and similarity to peers and supervisors (Tsui & O'Reilly, 1989; Turban & Jones, 1988), promotion and personality fit (Ferris & Judge, 1991; Schaubroeck & Lam, 2002) and job satisfaction and coworker value congruence (Adkins, Ravlin, & Meglino, 1996). Indeed, the notion of fit suggests that the standing of individuals relative to one another drives certain outcomes – and as such, there should be person-specific reactions to particular coworkers for a variety of phenomena. I propose a relationship specific dimension of coworker satisfaction here, and in particular an aspect of relational CWS absent perceiver and partner effects.

Hypothesis 3: The specific relationship with a particular coworker will explain unique variance in coworker satisfaction (relational CWS).

From the idea that coworker satisfaction has three distinguishable components, I now turn to the likely predictors for each aspect of this three part conceptualization of CWS.

Predicting Perceiver Coworker Satisfaction

In considering antecedents if stability in coworker satisfaction across one's coworkers, I focus on stable personality characteristics that are likely to influence experienced coworker satisfaction.

Agreeableness. My interest in understanding the determinants of perceiver satisfaction with coworkers leads us to consider the role of dispositional personality. In particular, the Big Five personality trait *agreeableness* refers one's characteristic orientation toward others, and a propensity toward certain prosocial cognitions (e.g. trustingness, compassion, friendliness, cooperation, modesty, altruism, and sympathy)(Costa & McCrae, 1992; McCrae & Costa, 1987). As noted by Back, Schmukle, and Egloff:

> "Chronic other-focused positivity processes ('others are friendly and likable')… are core features of agreeableness. Agreeable persons are described as being good natured and as regarding others with favour (John, Naumann, & Soto, 2008)" (2011, citation in the original).

Individuals who possess high degrees of agreeableness more likely to engage in mutually beneficial conflict resolution (Graziano, Jensen-Campbell, & Hair, 1996), strongly value social harmony (Costa & McCrae, 1992), and report less conflict in their relationships (Suls, Martin, & David, 1998). Positive perceptions of relationships and integrative approaches to conflict are suggested to be a function of a pervasive, positive regard for others that is captured by this characteristic. As such, I expect that:

> *Hypothesis 4: Agreeableness will be positively associated with a perceiver's general tendency to be satisfied with their coworkers (perceiver CWS).*

Though not the focus of prior research, reported descriptive statistics in the organizational literature are suggestive of a link between agreeableness and reported (general) coworker satisfaction. Liao, Joshi, and Chuang (2004) for example, report a statistically significant correlation of .31 between the two. However, as this is the first study to investigate perceiver, partner, and relationally emergent sources of satisfaction, the exact nature of this relationship has, to date, gone underspecified.

From the SRM literature, two studies suggest that agreeableness may be an important consideration for dispositional, positive perceptions of others. As Lemay and Clark (2008) compellingly demonstrate in a series of studies, benevolent orientations are projected onto alters, and color the interpretations of others' behavior in the direction of

one's own degree of care for others. In the context of peer ratings of group members, Bergman and colleagues found that, "The majority of the variance in trustworthiness ratings was attributable to the trustor and to the unique relationship between trustor and trustee" (2010: 379). While I explore the implications of this latter finding for relational effects later on, the strong association between agreeableness and an individual's general trustingness is suggestive of a more positive disposition toward others.[2]

Predicting Partner Coworker Satisfaction

Agreeableness. Beyond its suggested role in perceiver effects, there is considerable evidence suggesting that a target's degree of agreeableness can have a strong influence on how that individual is generally perceived by others. Agreeableness is associated with other-benefiting tendencies (Costa & McCrae, 1992; John, Naumann, & Soto, 2008; Wortman & Wood, 2011), and research from the interpersonal perception literature makes a compelling case that we pay a great deal of attention, and attach considerable importance, to the other-benefiting tendencies of those we interact with (Asch, 1946; Bakan, 1966; Cuddy et al., 2008, 2011; Fiske et al., 2007; Fiske, Cuddy, Glick, & Xu, 2002; Fiske et al., 1999; Rosenberg et al., 1968; Wojciszke et al., 1998). Indeed, perceived benevolence of an alter appears to be *the most influential factor* in our assessments of them (e.g., Abele & Wojciszke, 2007; Cuddy et al., 2008; Wojciszke et al., 1998). The centrality of this attribute in our interpersonal perceptions has been suggested to stem from the survival and social value of assessing whether a person is a potential benefactor or threat (Cuddy et al., 2008).

As mentioned in the earlier discussion of satisfaction as an affective phenomenon, emotional reactions to stimulus are linked to the degree to which it is perceived to contribute to the goal achievement of the focal perceiver (Lazarus, 1991). Given the other benefiting qualities associated with agreeableness (e.g. caring, compassion, friendliness, trust, morality, altruism, cooperativeness, modesty, sympathy) (Costa & McCrae, 1992), the strong association between this characteristic and the degree to which they are liked by others is not surprising (Wojciszke, Abele, & Baryla, 2009; Wortman & Wood, 2011).

[2] These studies speak to *perceptions* of others rooted in aspects of agreeableness, rather than assess the link between agreeableness and *affective reactions toward coworkers* (i.e. CWS), as is tested here.

Such positive affective regard is likely to extend to coworker assessments as, a partner's agreeableness can be a strong signal of whether a coworker is inclined to help us achieve our goals.

Alternately, individuals low in agreeableness can also have strong, asymmetric, and negative effects on others (Felps, Mitchell, & Byington, 2006). In Bell's meta-analysis of personality composition and team performance, the degree of agreeableness possessed by the least agreeable team member emerged as one of the strongest predictors of team performance in field studies (corrected correlation = .39) (2007). Asymmetries in the interpersonal consequences of agreeableness also extend to dyads. In a study of dyads mixed and matched on high and low degrees of member agreeableness, interpersonal conflict was, as expected, highest in similarly and strongly disagreeable pairs. However, mixed dyads also experienced higher levels of interpersonal conflict (Kelley & Stahelski, 1970). This suggests that individuals with disagreeable dispositions are able to provoke higher levels of disagreement from even dispositionally cooperative others.

The nature of agreeableness as a benevolent orientation, its power to unilaterally evoke certain behaviors from others, and its centrality in our assessments of others make it a likely and strong potential basis for evoked interpersonal affect. As such, I expect that:

> *Hypothesis 5: A person's agreeableness will be positively associated with the coworker satisfaction they generally evoke across partners (partner CWS).*

Partner competence. An emerging consensus in the interpersonal perception literature suggests that benevolence and competence constitute the "Big Two" of interpersonal perception. Scholars in this area have provided considerable evidence that these are the dominant qualities we pay attention to in others – to the near total exclusion of all other known factors (Asch, 1946; Bakan, 1966; Cuddy et al., 2008, 2011; Fiske et al., 2007, 2002, 1999; Rosenberg et al., 1968; Wojciszke et al., 1998). For example, research by Wojciszke, Bazinska, and Jaworski (1998) find that perceptions of these characteristics together explain 82% of the variance in our assessments of others. Above, I considered agreeableness, the Big Five personality trait associated with other-benefitting intent. Here, I consider the influence of competence – a person's ability to achieve their goals (Cuddy et al., 2008; G. Peeters, 1983).

The characteristics associated with competence – such as intelligence, knowledge, and efficacy – are generally seen as positive qualities in others (Cuddy et al., 2008; Fiske et al., 2007). To understand the relation of partner competence to generally evoked coworker satisfaction, I consider the likely impact of such qualities once again with respect to the idea that the valence of affect will reflect the influence of a stimulus on one's goal attainment prospects (Lazarus, 1991). To the extent that goals are shared, then a coworker's competence (i.e. their ability to achieve their goals) should generally result in positive affect across one's partners. Instrumentally valuable knowledge, skills and abilities of a colleague are a source of personal benefit in cooperative work environments. Such qualities in a coworker are likely to result in high quality contributions from that individual, as well as positive interpersonal dynamics – e.g. inspiring trust, allowing for less oversight for delegated tasks, etc. As such:

> *Hypothesis 6: A person's competence will be positively associated with the coworker satisfaction they generally evoke from others (partner CWS).*

Predicting Relational Coworker Satisfaction

In the following pages, I consider how the qualities of perceivers and their partners on the dimensions of agreeableness and extroversion may be related to relational coworker satisfaction. Because we are no longer considering the unilateral influence of perceivers or partners, but rather how an employee relates to a particular colleague, the characteristics of both parties become relevant.

Agreeableness. Thus far, I have discussed how agreeableness is linked to feelings of coworker satisfaction toward others (perceiver CWS), as well as how this characteristic can generally evoke feelings of coworker satisfaction from others (partner CWS). I have argued that agreeableness can have unilaterally positive effects on how en employee perceives and is perceived by their coworkers. Here, I suggest a third effect of agreeableness that manifests as a consequence of the degree of discrepancy in this characteristic between coworkers leading to dissatisfaction. Or in other words, here the interest is in how the difference in agreeableness between coworkers relates to the

coworker satisfaction specific to one's relationship with a particular colleague (relational CWS).

In my discussion of perceiver and partner effects, I noted that agreeableness is linked to the value one places on social harmony and a person's tendency toward other-benefiting behavior (Costa & McCrae, 1992). Research by Dawes, McTavish, and Shaklee (1977) offers further evidence that one's other-regarding tendency is also the basis of one's expectations of regard from others. For example, the more cooperative one is, the greater degree of cooperation one expects from others. A lack of a shared standard in the appropriate level and types of other-consideration coworkers offer one another is likely to be a significant source of interpersonal dissatisfaction. From the perspective of the more agreeable coworker, a less agreeable partner may be seen as behaving selfishly, violating interpersonal norms, treating others disrespectfully, and failing to reciprocate considerate behaviors. Alternately, a partner less concerned with maintaining interpersonal harmony may feel unfairly accused of violating unreasonably high standards for other regard – i.e. a standard that they themselves do not hold.

A lack of validation for one another's social behaviors may make the interaction between coworkers less satisfying for both parties (Byrne, 1971). As discussed earlier, agreeableness is important to both how one perceives and is perceived by others (e.g., Bergman et al., 2010; Lemay & Clark, 2008) – whether high or low. As such, one's degree of agreeableness – whether one considers themself a "straight talker" or a peace-maker – may be a core part of an individual's identity. Our characteristic level of concern for others is likely to be reinforced by those we have selected, and who have self-selected, to interact with us – making accommodation on either side less likely.

How to deal with the disagreements that flow from discordant standards, and the other normal misunderstandings and miscommunications that occur in relationships, is likely to be a significant challenge for coworkers who differ in agreeableness. Specifically, the negative affect of incongruent standards may be exacerbated by a fundamental mismatch in conflict resolution styles. Graziano, Jensen-Campbell, and Hair (1996) find that one's degree of agreeableness is (negatively) associated with the tendency to endorse asserting power as an effective conflict response strategy. These preferences were stable in

spite of an attempted manipulation by the researchers – suggesting that these conflict preferences are deeply ingrained. As described by Graziano and colleagues:

> "These results were intriguing … [given that some] students were consistent in evaluating destructive conflict tactics as efficacious, even when they were told explicitly that constructive tactics were better choices" (1996: 832).

Relatedly, Sternberg and Soriano (1984) find that the personality scale "need for deference" is associated with one's conflict resolution style across situations (e.g. personal, organizational, and international conflicts). Study participants showed consistent patterns of preference for conflict escalation (i.e. retaliation, undermining other's self-esteem, third-party intervention) and against withdrawal tactics (i.e. waiting, stepping down, acceptance), or vice-versa. In cases of mismatched conflict styles, mutually satisfying resolution seem unlikely – i.e. where one partner dominates while another responds with withdrawal and less direct forms of resistance. For these reasons, I suggest that relational coworker satisfaction is higher when there is similarity in coworkers' levels of agreeableness (i.e. congruence), and that the effect of mismatch will be a precipitous fall in satisfaction. As such, mismatches between coworkers in this characteristic are likely to be especially damaging to relational coworker satisfaction.

> *Hypothesis 7: Coworker similarity in agreeableness will be positively associated with relational coworker satisfaction.*

Extroversion. Extroversion is also a Big Five personality characteristic strongly linked to sociality – referring to a general tendency to seek out stimulation (Eysenck, 1967), be energized by social interactions (Costa & McCrae, 1992), dominate conversations (Blake & Mouton, 1961), and a high rate of words usage when engaged in conversation (Back, Schmukle, & Egloff, 2009). Introverts, on the other hand, tend to exhibit a greater preference for less stimulating, and more solitary activities (Costa & McCrae, 1992; Eysenck, 1967; McCrae & Costa, 1987). Extroversion is also the Big Five personality characteristic that is most frequently associated with complementary fit, whereby extroversion dissimilarity among individuals is suggested to promote satisfaction. These effects have been suggested as likely to occur because extroverts seek to dominate social situations, and competition from others similarly motivated to dominate could create

dysfunctional conflict (Humphrey, Hollenbeck, Meyer, & Ilgen, 2007; Neuman, Wagner, & Christiansen, 1999). However, extant empirical evidence both supports and refutes an extroversion dissimilarity-satisfaction relationship.

Supporting this link, extroversion dissimilarity has been positively related to one's overall satisfaction rating of all of one's coworkers (Liao et al., 2004). Extroversion dissimilarity has also been linked to attraction to and satisfaction with one's team (Kristof-Brown, Barrick, & Stevens, 2005; M. A. G. Peeters, Rutte, van Tuijl, & Reymen, 2006), and team performance (Barry & Stewart, 1997). As discussed earlier, performance is a factor likely to influence one's satisfaction with particular coworkers.

However, studies with teams and all coworkers as targets of satisfaction tell us little about the influence of extroversion on dyadic relationships. In research at the dyad level, Tett and Murphy (2002) find support for *similarity* in individual levels of dominance (a sub dimension of extroversion) and attraction to hypothetical coworkers. Outside of organizational scholarship, Jackson and colleagues (2011) find that extroversion *dissimilarity* between coaches and athletes has a *negative* effect of on measures of relational commitment and relatedness. In yet another context, extroversion dissimilarity is a predictor of divorce (Kurdek, 1993), as well as worse marriage quality (Russell & Wells, 1991). Others have found evidence for similarity in extroversion leading to attraction to strangers (Palmer & Byrne, 1970). In dyadic management research, extroversion dissimilarity has not emerged as a predictor of perceptions of leader member exchange (Berneth et al., 2007).

Additional work supporting the value of having similarly extroverted coworkers comes from research with customer service workers. Perry, Dubin, and Witt (2010) find that in this context, employee extroversion interacts with coworker extroversion dissimilarity to predict exhaustion. This effect is explained by the relatively higher tendency for extroverts to experience stress and burnout, and their tendency to benefit from and seek out greater degrees of social support from others (Eastburg, Williamson, Gorsuch, & Ridley, 1994; Swickert, Rosentreter, Hittner, & Mushrush, 2002). They argue that high levels of social support may be less available from more withdrawn colleagues (Perry et al., 2010).

Given that core differences between extroversion and introversion are the degree of stimulation one prefers (Eysenck, 1967), the extent to which one finds social interactions energizing (Costa & McCrae, 1992), and that research at the dyadic level generally favors a similarity matching hypothesis, I suggest that the influence of the relative degree of extroversion on relational coworker satisfaction will be as follows:

> *Hypothesis 8: Similarity in coworker extroversion will be positively linked to relational coworker satisfaction (relational CWS).*

Inconsistent findings regarding extroversion similarity may reflect the methodological limitations of much of the empirical research on extroversion similarity – the vast majority of which only looks at absolute levels of difference between actor and alter, and does not employ methods such as polynomial regression which unpack component effects. Specifically, polynomial regression and response surface analysis can be used to test whether dyad diversity at high levels of a trait have the same impact as the same levels of diversity at low levels of a trait, and whether possessing more of a characteristic relative to one's alter has a different effect than possessing relatively less (Edwards & Parry, 1993; Edwards, 1994, 2001, 2002). Ignoring such effects can mask the true nature of relationships and produce inconsistencies. As the goal here is to assess the relationship of absolute extroversion similarity, it is important to ensure that the influence of components is accounted for.

I employ polynomial regression and Response Surface Analysis to test the hypothesis of a generally positive effect of extroversion congruence, and to help advance the discussion regarding the role of extroversion similarity in dyads. In assessing the link between extroversion similarity and the strictly relational aspect of coworker satisfaction, we can provide a strong test of how exactly absolute levels of extroversion similarity influence coworker satisfaction. That is, whether general similarity across levels of difference drives the degree of coworker satisfaction specific to that particular relationship, absent perceiver and partner effects, and taking component effects into account. Thus, this analysis can help to clarify inconsistent findings in the literature to date.

METHODS

Participants and Procedure

Study participants were 874 undergraduate business students from a class of 890 students (98% response rate) engaged in 178 self-managing project teams of mostly five members (mean group size = 4.97). Participants provided complete personality data and coworker satisfaction ratings for each of their team members, resulting in a total of 3,412 dyad ratings for analysis. Teams worked within a corporation over the course of 10 weeks to develop a case study on a business problem, and act as consultants to the organization. This work included conducting an analysis of the organization, (e.g. organizational structures, assets, selection systems), interviews with employees regarding perceived problems within the company, as well as analyzing, compiling and presenting analysis, and preparing a change plan for addressing the key challenges identified. This project accounted for 40% of the students' overall grade in a course on Organizational Theory and Development in which they were enrolled at a large business school in the Netherlands.

Measures

Coworker satisfaction. Consistent with the majority of the coworker satisfaction literature, I define coworker satisfaction as fundamentally an affective reaction to the cognitive object of coworkers. In addition, taking a cue from the factor analysis of the JDI (Yeager, 1981) and the JDS (Hackman & Oldham, 1980), I acknowledge two interrelated bases for feeling satisfaction with a coworker: (1) a social/interpersonal aspect (i.e. liking) and (2) the experience of working with a coworker toward work goals. Ultimately, these two components are most probably very strongly linked - as liking and task based interpersonal affect have been show to demonstrate significant overlap both conceptually and empirically (Beehr et al., 2006). I also expect these emotions be mutually reinforcing in their valence.

An additional consideration for the coworker satisfaction scale chosen for this study was that the Social Relations Modeling program in the software R has a two item maximum for the modeling of variance. The advantage of a two item measure over one is the ability to distinguish error from the perceiver, partner, and relational variance.

To meet these conceptual and methodological criteria, I used an adapted, two item version of Byrne's (1971) Interpersonal Judgment Scale. These items assess one's

affective response to the other, namely how much you like them and would enjoy participating in a subsequent task with them. Advantages of this measure include the somewhat balanced foci on interpersonal liking of the other as well as one's emotional reaction to future task work with a dyad partner, and the suitability of the scale to the requirements of Social Relations Modeling in R. In addition, the Byrne measure is very widely used in both organizational as well as applied psychology research, thus allowing for the findings reported here to be linked to many other studies. For these reasons, participants were asked to rate each of their teammates in a round robin fashion on a seven point Likert scale for the questions: How likeable was this person to you? and How much would you enjoy working with this person on a future task? Answers were anchored at 1 "Dislike a lot" and 7 "Like a lot". The Cronbach's alpha for this scale was .81.

Big Five personality traits. Study participants completed an online version of Goldberg and colleagues' 50 item Measure of the Big Five dimensions of openness to experience, conscientiousness, extroversion, agreeableness, and neuroticism from the International Item Pool (Goldberg et al., 2006). On a Likert scale, participants were asked to indicate how well the statements presented described them, with five indicating strong agreement and one indicating strong disagreement. Ten items were presented for each dimension of personality, with some items negatively worded (reverse scored). The survey software was programmed to present items in random order to avoid any order effects.

Competence. A coworker's prior performance represents a likely basis for affective reactions. In order to assess competence, participants were asked for permission to access their transcripts, and of the 874 who completed the survey questionnaires, 737 agreed (82% of the total sample of 890). Cumulative grade point averages were calculated for the seven courses study participants had completed prior to beginning their team projects. A strength of this particular sample is that the competency measure is highly standardized and comparable across participants as all were following a prescribed course timeline, taking the exact same courses, and being graded on the same criteria. Correlations, means and standard deviations for all measures employed in this study appear in Table 1 below.

TABLE 1:Coworker Satisfaction: Descriptive Statistics and Correlations

Concept	Mean	Std. Deviation	N	1	2	3	4	5	6	7
1. Perceiver Coworker Satisfaction	0.00	0.66	874	--						
2. Partner Coworker Satisfaction	0.00	0.63	874	.34**	--					
3. Openness	3.32	0.43	890	-.07*	-.03	(.63)				
4. Conscientiousness	3.62	0.37	890	.04	.07*	.21**	(.68)			
5. Extroversion	3.71	0.43	890	.02	.00	.34**	.34**	(.77)		
6. Agreeableness	3.44	0.39	890	.11**	.09**	.15**	.24**	.00	(.63)	
7. Neuroticism	2.46	0.46	890	-.06	-.03	-.08*	-.13**	-.29**	-.07*	(.72)
8. Competence (GPA)	6.86	0.49	737	-.04	.14**	.03	.24**	-.01	.13**	.04

*p < .05, **p< .01 (two-tailed tests),

Note: Cronbach alpha reliability statistics are provided along the diagonal

Analyses

Social Relations Modeling. The perceiver, partner, and relational variance in coworker satisfaction ratings were calculated using the statistical analysis software R and the statistical package Triple R (Schmukle, Schonbrodt, & Back, 2011). The two item measure of coworker satisfaction allowed for the use of multigroup univariate latent analysis. Each group was treated as the unit of analysis with estimates of the three component effects and error calculated for each group. Thus, the results presented here "controlled" for group membership (Schmukle et al., 2011). T-tests were then employed to assess whether mean component effects across groups were significantly different than zero.

To assess the relationships between predictor variables and the components of coworker satisfaction, perceiver and partner effects were also calculated for each individual participant in the study using Triple R. Relational effects were calculated for each participant's rating of every other member of their group.

Polynomial regression and Response Surface Analysis. My hypotheses regarding relational effects include consideration of both dyad member characteristics. Edwards and Parry (1993) have expressed concern about the pervasive use of difference scores in such research when component variables are collapsed into a single term (e.g. absolute difference scores, squared differences, or the sum of differences). As outlined by Edwards (1994, 2001, 2002, 2007), such transformations impose constraints on the relationships between inputs and the outcome measure, create ambiguities by confounding component effect (Edwards, 2002), and can result in poorer reliability than (and especially among correlated) component scores (J. Cohen & P. Cohen, 1983; Johns, 1981).

Edwards has advocated a more nuanced approach, namely the use of polynomial regression and Response Surface Analysis (1994, 2001, 2002, 2007). Polynomial regression and Response Surface Analysis (RSA) are important methodological tools that help address the limitations of difference scores outlined above. This is accomplished by maintaining each of the antecedent components in a polynomial regression equation rather than collapsing them into a single dimension (as would be done if scores on two perceiver characteristics were transformed into one difference score). Subsequent Response Surface

Analysis allows for each of these components, along with the outcome of interest, to be plotted, tested, and interpreted in three dimensions, with the integrity of each of the antecedent components' relationship to the dependent variable maintained.

Thus, in this analysis, Social Relations Modeling is used to partition variance in *outcomes*, while polynomial regression is used to reveal the unique patterns among *antecedents*. When employed in my consideration of the relationship between the Big Five personality characteristics of dyad partners and relational coworker satisfaction, the characteristics of the perceiver, partner, and relational coworker satisfaction are each represented as a spatial dimension. Employing these methods reveals a far richer picture of how perceiver and partner Big Five characteristics are related to relational coworker satisfaction.

Polynomial regression is the first step in RSA. It builds on the component values themselves to provide information that can be used to assess the consequences of different aspects of diversity on the dependent variable. In the first step, new terms are constructed (i.e. mean centered perceiver and partner personality scores, squared terms for each, and an interaction term of the two component scores). These factors are then entered into a polynomial regression analysis.

$$CWS_y = b_0 + b_1X + b_2Y + b_3X^2 + b_4XY + b_5Y^2 + e$$

In the equation above, CWS_y represents satisfaction with coworker $_y$, and X and Y represent the mean centered value of dyad member X and Y's respective personality scores on a dimension. If this regression model is significant, than these weights can be the basis for subsequent Response Surface Analysis to assess the more exact nature of the relationship between the predictors and the outcome of interest.

Four features of the pattern of relationships are considered (Shanock et al., 2010). The first is a^1: "the line of perfect agreement". The slope of this line indicates the relationship between the outcome variable and the overall amount of a characteristic in the dyad. In particular, this line tells us if there is a linear relationship between the outcome variable and the overall level of the predictor in the dyad. This is assessed by combining the slope of partner X's mean centered score and the slope of partner Y's mean centered score (i.e. $a^1 = b_1 + b_2$), which can then be tested for significance (Edwards, 1994, 2002; Shanock et al., 2010). Beyond significance, the sign of the test statistic is also telling. If the

value of the a^1 test statistic is positive, this indicates that the outcome variable increases linearly with the level of the overall component value in the dyad.

A second quality of the component relationships that can be assessed with this method is whether there is a non-linear relationship between the overall level of the components in a dyad and the dependent variable. Spatially, this is represented by convexity or concavity in the response surface plane along the line of perfect agreement (Shanock et al., 2010). This characteristic, is assessed via a significance test of a^2, where $a^2 = b_3 + b_4 + b_5$. If the test value of a^2 is significant, further information is provided by its sign. A positive a^2 test statistic indicates convexity (saddle shape) in the line of agreement – with non-linear, high values of the dependent variable occurring with high overall levels of the components in the dyad. A negative sign denotes concavity (U-shape), low outcome values consequent to overall dyad levels.

A third quality of component-outcome relationships this method reveals is along the "line of incongruence". The slope of the line of incongruence reveals the degree to which the relationship to the outcome variable is affected by the relative height of one dyad partner's score in comparison to the other. In this case, such a scenario may be said to occur where we expect Partner X's rating of their relational satisfaction with coworker Y to be influenced by whether Partner X is higher or lower in a particular personality characteristic relative to Partner Y. The line of incongruence is plotted as $a^3 = b_1 - b_2$.

Finally, curvatures of this line tell us if coworker satisfaction drops more precipitously as the characteristic of one partner is higher or lower than that of the other. Non-linearities in the relationship to the dependent variable are tested with the value of a^4, with $a^4 = b_3 - b_4 + b_5$.

Patterns among these elements can also been interpreted. Particularly relevant for the hypotheses developed here, Edwards and Cable's article on value fit argues that perfect *congruence effects* can be said to exist if:

> "[the] surface is curved downward along the incongruence line [and] the quantity $b_3 - b_4 + b_5$ [i.e. a^4] [is] negative. If the ridge of the surface runs along the congruence line, [and] the first principal axis of the surface [has] a slope of 1 and an intercept of 0. Finally, if a surface is flat along

the congruence line, then the quantities $b_1 + b_2$ [a^1] and $b_3 + b_4 + b_5$ [a^2] should both equal 0" (2009: 660).

RESULTS

The first step in this analysis involved assessing whether coworker satisfaction could be differentially attributed to perceiver, partner and relational sources. Results of this analysis (Table 2) indicate support for H1, H2, and H3 – that there are 3 aspects of coworker satisfaction: perceiver CWS, partner CWS, and relational CWS. In further regression analysis, agreeableness predicted perceiver effect variance in coworker satisfaction (H4), suggesting that agreeable individuals tend experience generally higher coworker satisfaction across partners. Though not hypothesized, another dimension of personality, *openness*, also emerged as a negative predictor of perceiver coworker satisfaction[3]. With regards to partner variance in coworker satisfaction, I find support for agreeableness as a predictor (H5), as well as partner competence, as measured by GPA (H6). These findings suggest that agreeableness and competence are associated with generally higher coworker satisfaction across one's partners (partner effects). Predictors of perceiver and partner effects are presented in Table 3.

TABLE 2

Variance Components of Coworker Satisfaction

Variance component	Coworker Satisfaction
Perceiver	0.145***
Partner	0.133***
Relational	0.373***
Error	0.349

*** $p < .001$

[3] For the interested reader, data on the predictive value of all Big Five dimensions of personality for perceiver and partner effects are presented in Table 3.

TABLE 3: Coworker Satisfaction: Personality and Prior Performance as Predictors, Unstandardized Regression Coefficients

	Perceiver Coworker Satisfaction				Partner Coworker Satisfaction		
	B		S.E.		B		S.E.
Intercept	0.12		(.49)		-1.38	**	(.43)
Openness	-0.16	**	(.06)		-.08		(.06)
Conscientiousness	0.06		(.07)		.06		(.07)
Extroversion	0.04		(.07)		.00		(.06)
Agreeableness	0.21	**	(.07)		.12	*	(.06)
Neuroticism	-0.06		(.06)		-.04		(.05)
Competence (GPA)	-0.08		(.05)		.16	**	(.05)
N	874 / 737(GPA)				874 / 737(GPA)		
R^2	0.03	**			.030	**	

Note: *p< .05, **p< .01, (one-tailed tests)

For relational coworker satisfaction, polynomial regression indicated significant variance explained for both agreeableness and extroversion (see Table 4). These effects lead to subsequent Response Surface Analysis, with significant findings for agreeableness and extroversion components for predicting relational coworker satisfaction. Specifically, I find evidence in favor of a matching effect for dyad member agreeableness (a^4, $p<0.01$) (H7). Beyond hypothesized effects, I also find support for a non-linear, positive effect of overall dyad agreeableness (a^2, $p<0.01$) on relational coworker satisfaction. The Response Surface Analysis provides further insight into these effects (Figure 3a & 3b). In particular, beyond a general matching effect for agreeableness, we can see that individuals with very

low levels of agreeableness experience very high levels of relational CWS with coworkers who are similarly low in agreeableness. Regarding relational CWS and extroversion, RSA appears to favor similarity matching (H8) in relational coworker satisfaction (Figure 4a & 4b), however, this relationship does not meet the threshold of significance. In addition, we can observe a significant effect of overall levels of dyad extroversion negatively linked to coworker satisfaction (a^1, $p < 0.050$). This effect is driven by particularly high levels of relational coworker satisfaction among introverts matched with one another. Thus, component values play a key role in the link between levels of extroversion in a dyad and relational CWS, such that the effect of extroversion on relational CWS has a non-linear, positive effect for similarly low extroversion individuals.

TABLE 4

Personality and Competence as Predictors of Relational Coworker Satisfaction; Polynomial Regressions

	Extraversion	Agreeableness
	B (*se*)	*B* (*se*)
INTERCEPT	.124(.04)**	.04(.02)
$Personality_x$	-0.18(.07)**	.10(.05)*
$Personality_y$	-0.16(.07)**	.10(.05)*
$(Personality_x)*(Personality_y)$	0.25(.06)**	.27(.07)**
$Personality_x^2$	-0.00(.04)	-.02(.04)
$Personality_y^2$	-0.01(.04)	-.02(.04)
N	3412	3412
R^2	0.01**	0.01**

Note: *p < .05; **p< .01 (two-tailed tests)

FIGURE 3a
Relational Coworker Satisfaction as Predicted by Rater and Partner Agreeableness Discrepancy

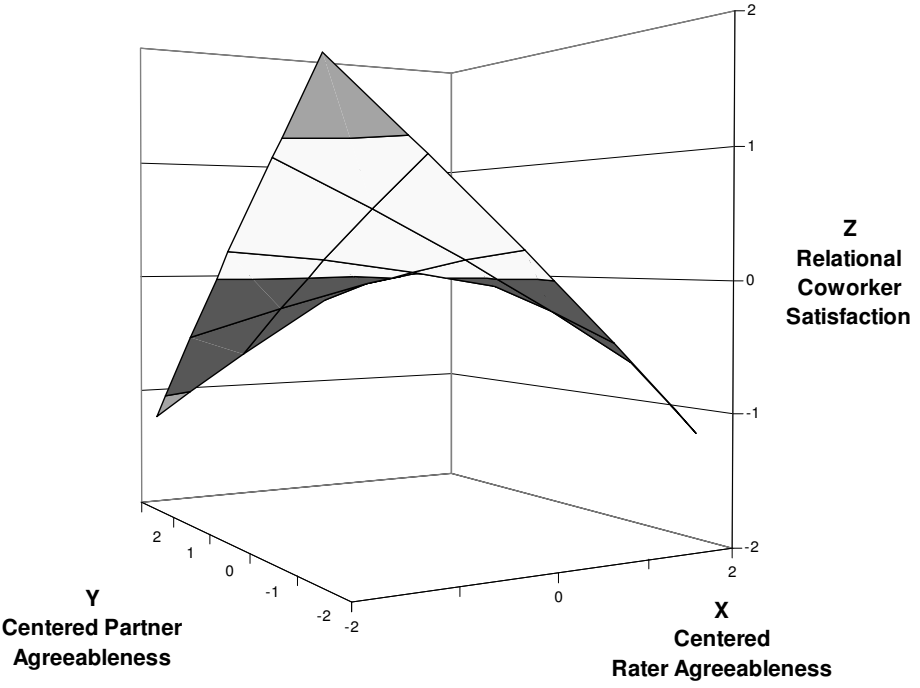


FIGURE 3b
Rotated View of Relational Coworker Satisfaction as Predicted by Rater and Partner Agreeableness Discrepancy

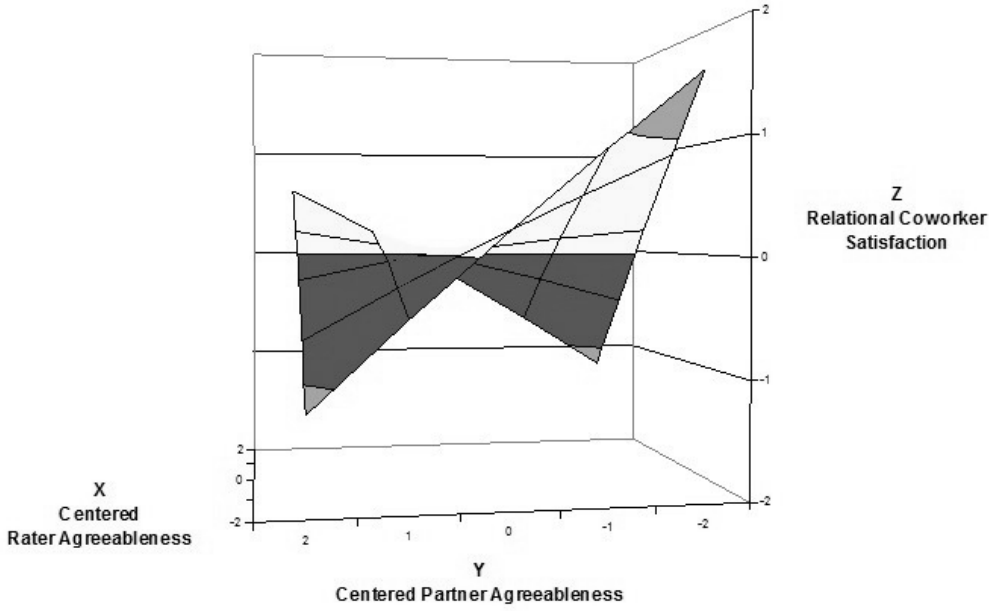


FIGURE 4a Relational Coworker Satisfaction as Predicted by Rater and Partner Extroversion Discrepancy

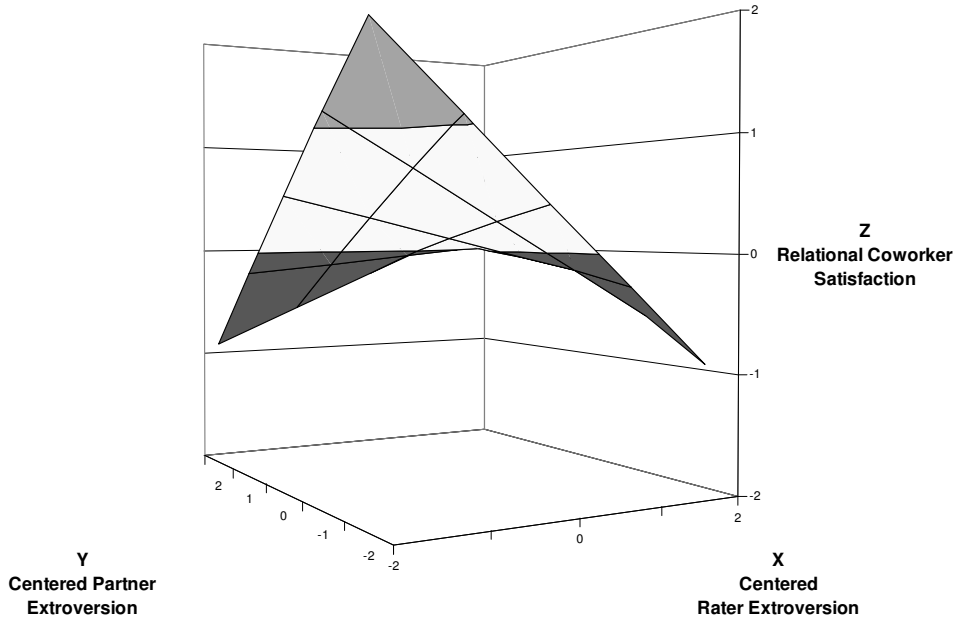
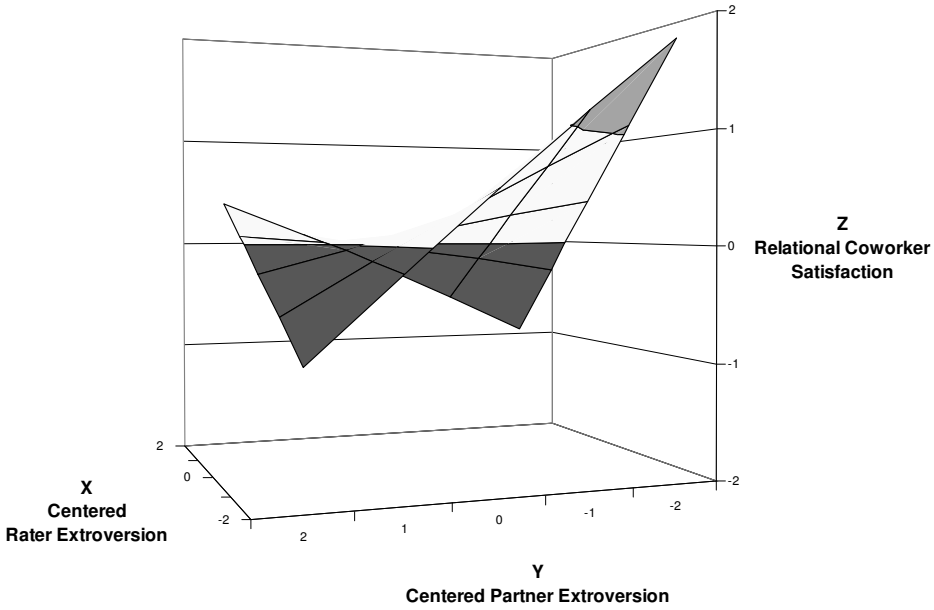


FIGURE 4b
Rotated View of Relational Coworker Satisfaction as Predicted by Rater and Partner Extroversion Discrepancy



DISCUSSION

Theoretical Implications

The research presented here reveals a new picture of coworker satisfaction for researchers and practitioners. Foremost, I present evidence of three distinct sources of coworker satisfaction. Namely, this interpersonal phenomenon emerges from the tendencies of individuals to be satisfied with their colleagues (perceiver CWS), from partners' general tendency to evoke coworker satisfaction across a range of colleagues (partner CWS), and the specific relationship between two particular coworkers (relational CWS).

In demonstrating the facets of coworker satisfaction, I have also provided evidence as to the relative weights of these components in contributing to overall coworker satisfaction. My analysis finds that while each aspect (perceiver, partner, and relational CWS) is significant and important in explaining variance, emergent, *relational coworker satisfaction* plays a large role in overall coworker satisfaction - explaining more variance than perceiver and partner effects combined.

We find that agreeableness plays a role in predicting all three of these effects, in that agreeableness predicts one's tendencies to experience satisfaction with one's coworkers, to evoke feelings of satisfaction from coworkers, and that matching degrees of agreeableness with a particular coworker contributes to satisfaction. Beyond agreeableness, I also find support for a partner effect of competence which, combined with the agreeableness partner effect, seem to support the notion of a Big 2 in interpersonal affect as well as in interpersonal perception (e.g., Asch, 1946; Bakan, 1966; Cuddy et al., 2008, 2011; Fiske et al., 2007, 1999; Rosenberg et al., 1968; Wojciszke et al., 1998). Though not hypothesized, I also observe effects of agreeableness and extroversion matching which indicate that levels of coworker satisfaction are dramatically higher for coworkers who are similarly low on these characteristics – non-linear effects of matching which suggest that the effects of similarity on satisfaction are not absolute.

Implications for practice

In considering the goal of maximizing overall coworker satisfaction, these findings suggest which employees are likely to be generally satisfied with their coworkers

(agreeable persons) and who are likely to satisfy others (agreeable and competent colleagues). Beyond perceiver and partner considerations, the relative weights of the three aspects of CWS presented here suggest that the biggest opportunities for managers to improve coworker satisfaction are in the relational linkages among employees. In particular, managers may be able to dramatically improve employees' coworker satisfaction by matching them with particular individuals.

In combining Social Relations Modeling and polynomial regression, we can provide far more tailored insights as to what factors influence coworker satisfaction for whom and how. In demonstrating how similarity in agreeableness and extroversion relate to satisfaction in both linear and non-linear ways, I have presented evidence which suggests bases for such matching. Foremost, I evidence the importance of dyad congruence in agreeableness. Response Surface Analysis further reveals interesting and informative non-linear effects of agreeableness matching and relational coworker satisfaction. This observed relationship suggests that there may be opportunities to dramatically improve coworker satisfaction for particular subgroups of employees. The combination of methods employed in this study suggests an opportunity to increase coworker satisfaction by matching highly introverted employees. In addition, evidence is presented here that is suggestive of potential value in matching individuals low on agreeableness. In other words, there may be an excellent opportunity to create high levels of coworker satisfaction for a subpopulation of less agreeable individuals by structuring interdependencies among them. This offers a potential solution to the "bad apple" problem (Felps et al., 2006), whereby the powerful, asymmetric, negative, and – as documented here – unilateral partner effects of less agreeable individuals on more agreeable partners may be avoided by having low agreeableness individuals work together – increasing coworker satisfaction all around.

Without the three aspects of coworker satisfaction demonstrated in this research, managers may have attempted to improve the satisfaction of unsatisfied employees who are low on agreeableness by simply changing their colleagues or matching with them with a coworker who is generally able to evoke high levels of satisfaction from others. This research suggests the many ways in which this would have been counterproductive – in that it would likely reduce satisfaction for the more agreeable employees dramatically

(given the size and importance of relational effects) and create an opportunity cost from the lost chance to match both persons with someone whom they fit well with relationally.

Limitations

A variety of aspects of this research could be bolstered by further study. In particular, replication in an organizational sample that includes greater age diversity can help to clarify the generalizability of the findings presented here, as could replications in different national contexts. A challenge in such research would be the measurement of employee competence. As the research presented here and elsewhere suggests, one of the more accessible measures of competence - supervisor and peer ratings - may reflect actor and partner, and non-competence based relational effects (e.g., Ferris & Judge, 1991; Greguras et al., 2001; Schaubroeck & Lam, 2002; Tsui & O'Reilly, 1989; Turban & Jones, 1988). Ideally, competence is measured in a way that is strongly comparable across study participants, that is, the measure reflects past performance on the same objective criteria. A strength of the work presented here is the standardization of the competence measure, which was comprised of an aggregation of performance assessments of participants from the same exact set of prior activities, and judged on the same criteria by the same assessors at the same points in time.

Beyond replication, additional work might consider the influence of relationship type and duration. Time, may have effects in a variety of ways – such as on the relative weights of perceiver, partner, and relational coworker satisfaction. For example, the size of perceiver effects may diminish over time as coworkers come to know one another well. Relationship type may also be an influential factor in the generalizability of these findings. While I have here explored relationships among coworkers in hierarchically "flat", self-managing teams, there may be different effects of the predictors of agreeableness and competence when the target is a manager or a subordinate, as well as differences in the sizes of perceiver, partner, and relational effects when hierarchy is a significant dimension of a relationship.

Future directions

By employing Social Relations Modeling to parcel out these sources of variation, scholars can begin to develop a more complete understanding of what qualities drive individuals' experience of satisfaction – not only with reference to coworkers, but also

with satisfaction that is a consequence of other aspects of the environment considered in the fit literature (e.g. person-job fit, person-team fit, person-supervisor fit). As such, the research presented here on perceiver, partner, and relational effects in satisfaction may be applicable beyond the realm of dyadic, relational research between coworkers. And indeed, assessing, for example, the degree to which particular jobs tend to evoke satisfaction from employees (partner effect), the influence of a supervisor's general perceptual tendencies on their evaluations of subordinates (perceiver effect), and the dimensions on which applicants should fit a particular organization to experience high levels of satisfaction (relational effects) are all exciting and important lines of future research on satisfaction facilitated by the 3 part conceptualization of satisfaction, and the methods presented here.

With regard to interpersonal satisfaction, I have provided evidence that satisfaction is stable across coworker relationships (perceiver CWS), that individuals have general tendencies to evoke coworker satisfaction from others (partner CWS), and that (absent these two effects), satisfaction entails an affective response to a particular other coworker (relational CWS). Here, I have presented the conceptual background for this new understanding of coworker satisfaction and indicated the methodological tools that can allow for future research on each of these aspects of coworker satisfaction. In doing so, I have also provided a model of the tools that can be applied to other interpersonally emergent phenomena in future management scholarship.

The research presented here also offers insights into the size of each of these effects on variance in coworker satisfaction. For scholars, this provides perspective as to the scale of the endeavor ahead in terms of how much variance in each aspect of coworker satisfaction is waiting to be explained for each of the three components. The relative size of these effects highlights the importance of studying relational predictors to advance our understanding of coworker satisfaction. For example, relational variance is twice as large as perceiver variance and three times greater than partner variance. The relative weights of these components also provide some idea as to which types of CWS research will likely prove to be the most consequential for practitioners.

In addition, the findings presented here also underscore the critical role of agreeableness in all three aspects of coworker satisfaction, implying that individuals who possess this quality may be key for organizations who wish to improve coworker

satisfaction through selection, assignment, and matching. In addition, agreeable individuals may deserve particular attention as a subpopulation in future research as to the tendencies and processes by which coworker satisfaction is evoked. An interesting question is whether partner effects can be increased through leadership training, or whether partner effects are truly circumscribed.

To understand some of the factors that influence each component in satisfaction, I have considered the influence of the Big Five dimensions of personality - in particular extroversion and agreeableness, stable characteristics that have been strongly linked to social tendencies (McCrae & Costa, 1987). Thus, the research presented here has implications for scholarship that links personality variables to relational phenomena. In particular, the methodology used here to unpack the dimensions of relational phenomena can also shed light on the specific ways in which personality characteristics are having their effects on dyads – i.e. through their influence on how we perceive, how we are perceived, and how we fit with others respectively. In the case of both agreeableness and extroversion relational effects, evidence presented here suggests that the consequences of diversity in dyads are not absolute, and as such, Edwards' point that component values should be accounted for with polynomial regression and Response Surface Analysis are especially important for future research regarding the interpersonal consequences of diversity on these characteristics (Edwards, 1994, 2001, 2002, 2007).

However, the characteristics studied here only begin to predict these three aspects of coworker satisfaction. The logics of interpersonal matching on Big Five characteristics and the exploratory data presented here in tables 1, 2, and 3 may indicate other potential predictors, and help advance our understanding of satisfaction. Avenues for research include investigations into the processes by which coworker satisfaction emerges within particular relationships, the individual factors that contribute to the experience of satisfaction, and the dispositions, qualities, skills and practices which may evoke it from others. Finally, the research presented here may also help researchers understand the informal, interpersonal, preference driven patterns of relationships that emerge between employees within organizations, which have been shown to be influential in, for example, who employees go to for assistance (Casciaro & Lobo, 2008). As such, this research can help inform future scholarship on the employee self-selection into coworker relationships

that occur in organizations – with particular implications for social network research. I hope that this research and methods offered here will inform future investigations into relationally emergent phenomena among coworkers.

Chapter 4: Coworker Relationships in Eye of the Beholder, the Eyes of Others, and the Meeting of Minds: Social Relations Modeling of Relational Models

Relational theories such as Social Exchange (Blau, 1964), Resource Exchange (Foa & Foa, 1980), Interdependence Theory (Kelley & Thibaut, 1978), Leader-Member Exchange (Hollander, 1978), and Mills and Clark's theory of exchange and communal relationships (1984) are among the most influential and well-established frameworks for understanding behavior in organizations. More recently, interpersonal relationships have emerged as the basis for new theories of employee motivation (Dutton, 2003; Dutton & Heaphy, 2003; Grant, 2007), models of turnover (Felps et al., 2009), leadership (Carmeli, Ben-Hador, Waldman, & Rupp, 2009; Graen & Uhl-Bien, 1995), organizational commitment (Shore et al., 2004), sensemaking (Wrzesniewski, Dutton, & Debebe, 2003), and employee identities and identification (Sluss & Ashforth, 2007). These perspectives are supported by methodologies such as Social Network Analysis, which have helped to reveal the myriad ways in which patterns of relations among coworkers relate to individual and collective outcomes (see Borgatti & Foster, 2003 for a review). Meta-analytic research has further underscored the key role of interpersonal relationships in organizations – linking them to work attitudes and effectiveness (Chiaburu & Harrison, 2008). However, typical conceptualizations of interpersonal relationships in management science as merely high or low quality, tie or no tie, or as exchange are far less rich than they might be.

Recently, more nuanced conceptualizations of relationships have emerged. Important work in this vein comes from Fiske and Haslam, who have marshalled evidence from across the social sciences in support of four fundamental relationship types – Communal Sharing, Market Pricing, Equality Matching, and Authority Ranking. Each Relational Model describes a unique pattern of resource exchange and balance, rules for interpersonal decision making, norms of reciprocity, and power differentials among actors (Fiske, 1992). Further, this relationship taxonomy holds across a wide range of cultures and situations - determining patterns of interpersonal behavior, cognition, and coordination (Fiske, 1992, 1993, 1995; Fiske & Haslam, 2005; Fiske, Haslam, & Fiske, 1991; Haslam, 1994a, 1994b; Haslam & Fiske, 1992, 1999).

The value of these more nuanced conceptions of relationships is just beginning to be realized in management scholarship. Thus far, Relational Models Theory (RMT) has

been applied in the study of entrepreneurial teams (Blatt, 2009), knowledge sharing (Boer, Berends, & van Baalen, 2011; Lin, Wu, & Lu, 2010), and organizational justice (Aggarwal & Larrick, 2012; Poulson, 2005; Lai, Rousseau, & Chang, 2009). Relational Models have also been used to understand different kinds of interpersonal trust (Sheppard & Sherman, 1998), unethical leadership (Giessner & van Quaquebeke, 2010), supervisor-subordinate guanxi (Chen et al., 2009), mentoring (Young & Perrewe, 2000), and have been considered with regard to HR systems (Mossholder, Richardson, & Settoon, 2011). These studies suggest that distinguishing among different kinds of coworker relationships can provide insights into the interpersonal factors that underlie organizational behavior.

The importance of relationships for organizational behavior and the variety of relationship types identified by Fiske raises a key question: What determines which Relational Model(s) will develop between particular coworkers? To date, much of the emphasis in Relational Models research has been on describing the "rules" for each relationship type (Fiske, 1992), establishing their universality across cultures (Fiske, 1993), and verifying that these four models are indeed the implicit organizing frames for people's social lives (Fiske, 1995; Fiske, Haslam, & Fiske, 1991; Haslam, 1994a; Haslam & Fiske, 1992, 1999). Meanwhile, applications of RMT (RMT) have focused on the consequences of the different Relational Models. However, the literature has been nearly silent on what determines the emergence of certain Relational Models in particular relationships.

Here, I seek to address several fundamental questions regarding Relational Models and relationships more generally. Namely, to what extent does the type of relationship an individual perceives themselves to be in with another person reflect the individual's general tendency to perceive certain RMs across their relationships? Second, do individuals have a general tendency to provoke certain Relational Models from others? Beyond general tendencies to see and evoke Relational Models, to what extent are RM perceptions relationship specific – i.e. unique to the interaction of two particular individuals and distinct from either partner's general tendencies to perceive or evoke certain relationship types? Thus, the work presented here seeks to unpack these sources of relationship perceptions.

Understanding the sources of relationship perceptions (i.e. the perceiver, the partner, and the unique relationship between the two two) for each of the Relational Models has significant and wide reaching implications for our understanding of interpersonal relationships – as well as for staffing, training interventions, and the structuring of interdependencies among employees. Tendencies in the Relational Models certain individuals apply and provoke suggest that managers may be able to promote certain relational modes among coworkers through the selection, and potentially training, of individuals. Further, relationship specific Relational Models suggest that relationship styles may be promoted by matching certain employees – i.e. creating interdependencies among those individuals who together are likely to manifest particular Relational Models.

These practical considerations beg second-order questions. Namely: Who is likely to see and prefer certain types of Relational Models in their relationships? Who provokes certain Relational Models from others? and What individual differences lead to the emergence of Relational Models that are relationship specific, rather than reflecting the general tendencies of the interaction partners? To predict these three sources of variance in Relational Models, individual characteristics such as gender and personality may serve as important clues.

The research reported here endeavors to answer these fundamental questions about sources of relationship perception variance and their antecedents in the context of coworker relationships. To preview, I first define the four Relational Models, and consider how they have been used in organizational research to date. In the next section, I describe how the Social Relations Modeling approach of Kenny (1994; Kenny, Kashy, & Cook, 2006) can help to reveal the origins of Relational Model perceptions by unpacking sources of variance. In the following section, I advance a number of hypotheses regarding perceiver, partner, and relational sources of variance in Relational Model perceptions. Building on the idea of these distinct sources of variance in relationship perceptions, I propose links between an individual's preferred Relational Models and their general tendencies to perceive and evoke those Models in their relationships with others.. Further, I consider issues of reciprocity, i.e. whether there is agreement in the RMs individuals tend to perceive, and those that they tend to evoke across their relationships with coworkers. Beyond generalized reciprocity, I also hypothesize agreement in relationship specific RM

variance among partners – or in other words, how RM perceptions that are unique to a particular relationship are likely to be reciprocated in the unique relational perceptions of a partner. In the next major section, I hypothesize how the Big Five personality characteristics of *extraversion* and *agreeableness*, as well as gender, are linked to RM preferences, and perceiver, partner, and relationship specific sources of variance in perceptions of the four Relational Models. These hypotheses are then tested in a sample of 874 business students working in 178 project teams to develop a business case within a company. Using a round robin research design, participants provided information on their perceptions of their Relational Models with each other team member, yielding a total of 3,409 dyadic relationships described for analysis. Beyond Social Relations Modeling, Polynomial Regression and Response Surface Analysis (Edwards, 1994, 2001, 2002, 2007) are employed to test the effects of dyad members' relative Agreeableness and Extraversion in predicting relationship specific variance in Communal Sharing Relational Model perceptions. Implications of these findings for future management scholarship and practice are then discussed.

CONCEPTUAL BACKGROUND

Relational Models

One morning you find yourself on the elevator with a colleague who tells you that they are under a tight deadline today to finish a presentation for a client. Further, the colleague reveals that they have not been able to find someone to practice the presentation with and get feedback from. They find this situation highly distressing as they believe that a successful presentation with the client will have implications for their promotion prospects. The way you respond to this information is suggested to reflect your relational schema – your cognitive representations of your relationship to this person (Baldwin, 1992).

A central insight of Fiske's Relational Models Theory is that the way we think about our relationships with others are not unique, rather regularities in relational schemas have been observed across groups separated by vast distances and levels of industrial development. Regularities in these relational grammars prompted Fiske (1992) to propose a unified theory of social relations. He argues that, "Whatever the context and content, whatever the substance and surface form of the interaction, people's primary frames of

reference in social life are the same four elementary relational models" (1992: 690). Here, I consider each of Fiske's four models in turn.

The four models. Relational Models Theory RMT builds on early work that categorizes relationships by patterns of exchange (Clark & Mills, 1979; Goffman, 1961). In the *Communal Sharing* (CS) model, resources are freely shared among members and used by individuals on the basis of need (Fiske, 1992). The open exchange of resources is premised on high levels of trust and members' mutual concern for one another's well-being. Because of this mutual concern, members of communal relationships are sensitive and responsive to one another's needs – regardless of the other's ability to reciprocate (Clark, Mills, & Powell, 1986). Often exemplified as families or clans, the CS model reflects strongly held, personally meaningful collective identities, and is characterized by closeness, kindness, and care.

In contrast, the *Market Pricing* (MP) model is premised on rational, self-interested exchange (Fiske, 1992) in which actors strive to maximize the value of the benefits they receive from the relationship relative to their personal inputs. In such exchange-based models, these benefits may be derived at the expense of the exchange partner, as others are valued instrumentally, rather than as ends in-and-of-themselves (Blau, 1964; Hendry, 2004). Thus, the exchange partner's needs are only attended to when there is an opportunity for reciprocation that will result in personal gain for the helper (Clark et al., 1986). Given the self-interested, transactional nature of the MP model, actors are acutely sensitive to the costs, benefits, and timing of exchange (Clark & Mills, 1979; Fiske, 1992; Goffman, 1961). Further, resources are typically exchanged under contractual conditions, or where there are means of enforcing reciprocation (Fiske, 1992). In such relational contexts, the power of individuals in the relationship is relative to the "market" value of each actor's resources both within the relationship and in exchange with alternative partners (Fiske, 1992).

With the *Equality Matching* (EM) model, on the other hand, the goal is to maintain balance between parties, rather than the advancement of personal interest (Fiske, 1992). Equality Matching is premised on equality among actors in terms of status, power, resources, and rewards. Resources are typically exchanged in kind, in a reciprocal, turn taking manner. EM patterns of exchange are grounded in reciprocity norms and motives,

as well as a greater degree of trust in reciprocation among actors than under the MP model (Fiske, 1992). The EM model can be exemplified by informal partnerships, where there are equal inputs and distributions of rewards. Compared to CS, the EM model is characterized by highly balanced (rather than need-based) reciprocal exchange, and lower levels of closeness (Neyer et al., 2011).

The fourth model, Authority Ranking (AR), refers to relationships in which there is inequality among actors, manifesting in differential control over resources in the relationship (Fiske, 1992). Thus, where the goal of the EM model is to maintain balance, hierarchical differentiation between actors in AR relationships is maintained through patterns of mutually legitimated patterns of control and deference (Fiske, 1992). For example, under this Relational Model, a team member may take on the responsibility for decision-making in exchange for deference and support from teammates.

Returning to the example given above, if you perceive yourself to be in a CS relationship with your distressed coworker, you are very likely to value that person as an end in themselves, to pay attention to their needs, see their goals as your own, and offer to help – even at the expense of your own productivity, without regard for their ability to reciprocate. The goal in any MP exchange is to get something more valuable than what was given, as in other market transactions. As such, if you perceive yourself as having a MP relationship with this colleague, and no direct personal benefit from helping, you are unlikely to do so. Alternately, if the colleague can provide resources, in a MP relational frame, the collegue's lack of alternative sources of help may lead you to request a highly valued favor in return for the minimum amount of help. As in other market transactions, the goal in any such MP exchange is to get something more valuable than what was given. To contrast the consequences of AR and EM models, we might imagine a scenario where a sales team is awarded a bonus. The bonus could be divided equally by members (EM), or the leader might decide the division for the group (AR) – potentially awarding themselves the lion's share for their higher status role.

Several studies find support for these dimensions as an implicit organizing framework in relational schemas and cognitions. The four relational models have emerged in Confirmatory Factor Analysis (Haslam & Fiske, 1999), taxonomic analyses (Haslam, 1994a), in patterns of descriptions of alters and free sorting of acquaintances (Haslam &

Fiske, 1992), as well as clustering of freely recalled names (Fiske, 1995). Name substitution errors also reflected the membership of individuals in the four Relational Model categories (Fiske, Haslam, & Fiske, 1991), a pattern replicated across four cultural groups (Fiske, 1993). The four dimensions also perform well relative to other ways of dimensionalizing relationships, i.e. the variety of social motives proposed by MacCrimmon and Messick (1976), Resource Exchange theory (Foa & Foa, 1980), and Mills and Clark's theory of exchange and communal relationships (1984).

Beyond positing and substantiating four "pure" relationship types, Relational Models Theory suggests that, in practice, relationships are often some combination of the models. For example, Fiske notes that "All four models may operate at the same time or in succession … Different implementations, combinations, and sequences of the four elementary models thus generate a complex world full of unique interactions" (2004:8). While future research may productively investigate these combinations, I consider the four models as dimensions of relationships, and operationalize them accordingly in the empirical work presented here.

Applications of Relational Models in Organizational Science

Manifestations of these models and their influence on social life are suggested to be ubiquitous (e.g. Fiske, 1992, Fiske & Haslam, 2005). Social decision making, for example, can be interpreted from a Relational Models perspective by considering the respective value placed on the opinion of each member – e.g. equal voting rights (EM), unilateral decision from the leader (AR), weighted votes (MP), or consensus (CS). Among many other dynamics, RMT can be used to understand the direction, content, and the value of resource flows among actors, as well as the likelihood, timing, and nature of reciprocation.

Research applications of Relational Models Theory in organizational science have demonstrated that these models are useful categories for distinguishing among types of relationships and understanding the elementary logics of interpersonal behavior. In their qualitative study of knowledge sharing behavior in two organizations, Boer, Berends, and van Baalen (2011) find that Relational Models can be useful in understanding information exchange. Their study suggests that experts are more likely to share their expertise when they perceive deference/acknowledgement of their status from others (AR). As such, it is

argued that knowledge sharing is only realized when a Relational Model is shared (Boer at al., 2011). Communal Sharing relationships were also suggested to facilitate, as well as inhibit, knowledge transfer – as members shared heavily among those with whom they were closely identified, but not outside of in-group boundaries (Boer at al., 2011). Alternately, Mossholder, Richardson, and Settoon (2011), have suggested that organizations may be able to capture value by promoting relational climates with HR policies that match the Relational Model desired among coworkers. For example, they suggest that organizations can promote the CS relational logic among employees by adopting HR practices that emphasize employee well-being and long term employment arrangements. Other valuing, need responsive HR practices are argued to engender CS models, and consequently, more prosocial values and helping among employees (Mossholder at al., 2011). Thus, Relational Models are a useful descriptive and potentially prescriptive frame for organizational behavior scholarship.

From theory to mind

Beyond their broad usefulness in describing behavioral patterns in relationships, the ubiquity and consistency of these four Relational Models is suggested to be evidence that they are the foundational psychological schemas for social life (Fiske, 1992; Fiske, 1993) – the ways in which people naturally *conceptualize* their relationships with others. From a social perceptive, such shared cognitive architecture has been suggested to allow for the coordination of behavior among individuals (Clark & Mills, 1979; Clark & Taraban, 1991; Fiske, 1992; Fiske & Haslam, 2005). From the perspective of the individual, the four models constitute "an implicit repertoire" (Fiske & Haslam, 2005: 268), guiding our expectations and attention regarding the social behaviors of others, and driving our own relational motivations, cognitions, and behaviors.

In thinking about Relational Models not only as constellations of interpersonal behaviors, but also as four ways of engaging in relationships, different considerations come to the fore. In particular, given the four relational repertoires one can apply to a social interaction, *what determines which Relational Models will manifest in a particular relationship*? Among others, Baldwin (1992: 461) has noted the need for a better understanding of the "regularities in patterns of interpersonal relatedness" and the relational schemas behind them.

I Here, I suggest that relational styles are a consequence of the tendencies of individuals to perceive and provoke particular Relational Models, as well as attributable to the interaction of individuals separate from the perceptual and evocative tendencies of the actors. In the following section, I describe how research designs and methods from the interpersonal perception literature can test for these sources of variance in how individuals conceptualize particular relationships.

THREE SOURCES OF VARIANCE IN RELATIONAL PERCEPTIONS: SOCIAL RELATIONS MODELING OF RELATIONAL MODELS

Since the introduction of RMT, important methodological tools have been developed in the study of interpersonal phenomena. In line with Baldwin's (1992) emphasis on understanding the regularities in interpersonal interactions, Kenny's Social Relations Modeling (1994) provides an approach for decomposing relational phenomena into their component parts. In particular, Social Relations Modeling builds on repeated measurement designs (e.g. round-robin or block) to unpack unique sources of variance attributable to an actor's perceptions across their interactions with others (perceiver effect), similarity in the responses of partners to a particular individual (partner effects), and variance in relational phenomena that is unique to the interaction of an individual with a particular other (relational effect).

The SRM approach has provided a number of key insights into understanding relational phenomena. For example, Social Relations Modeling by Bergman and colleagues (2011) has shown that interpersonal trust is by-and-large attributable to an actor's disposition to trust (perceiver effect), and the relationship between two individuals (relational effect), but that there is far less evidence that certain individuals tend to generally elicit trust from others (partner effects). These findings suggest that organizations interested in reaping the benefits of high levels of trust among employees might be more successful if they focus their efforts on selecting individuals who tend to be trusting, rather than on those who will be generally seen as trustworthy. Because SRM reveals both the sources of variance as well as the relative size of their roles in interpersonal perceptions and behavior this approach can provide insights as to where

scholars should focus their attention (i.e. actors/perceivers, partners, or the dyadic relationship) in order to better understand the interpersonal phenomena of interest, and how much variance is there to be explained.

To date, the relationships literature has yet to assess the potential role of actor, partner, and relational variance in Relational Models. However, there is reason to suspect that such effects may be present. In the sections below, I develop hypotheses for these effects.

Perceiver effects: The "I" in perceptions of "we"

Do individuals have a pervasive tendency to perceive their various relationships in terms of particular Relational Models? There are a number of reasons that individuals may evidence perceptual tendencies[4] when it comes to how they see their relationships. For example, an individual's RM tendency may reflect a *preference* for a particular relational style that is applied across partners. Preferred relational styles may also be projected onto relationships (Carley & Krackhardt, 1996; Lemay, Clark & Feeney, 2007) – a basis for perceiver effects I consider in greater detail in the next section.

Alternately, cognitive tendencies may lead to consistencies in relational perceptions. For example, an individual's past relational experiences may reaffirm and reinforce particular Relational Models, making some more accessible than others (Reis, Collins, & Berscheid, 2000). Thus, working in an extremely hierarchical organization, such as the military, may make Authority Ranking dynamics highly salient, familiar, preferred, and ultimately generally perceived by the individual.

An additional possibility raised in the literature on relational schemas is that people conceive of their relationships as some combination of conceptions of themselves and the other (Baldwin, 1992). As such, to the extent that relationally relevant self-schemas are stable (e.g. Markus, 1977; Swann & Read, 1981), this may introduce stability into relationship perceptions. Thus, I suggest that preferences, dispositions, biases, past

[4] While the research on Relational Models presented here deals with (and operationalizes) RM *perceptions*, the use of the term "perception" is not meant to imply that perceptions are necessarily independent from the "actual" Relational Models that exist across one's relationships. Indeed, preferences, self-schemas, and other individual factors may drive real relational behaviors and cognitions in accordance with one's perceived Relational Model, and may ultimately lead to the manifestation of that RM. This research focuses on RMs as perceptions given the premise that RMs are cognitive schemas. However, I also consider the issue of relational perceptions versus realities in my discussion of general and specific reciprocity.

experiences, stable self-schemas, and a host of other factors may result in individuals having generic relationship perceptions across partners. As such, I first make the general hypothesis that:

> *Hypothesis 1: Perceiver effects will explain unique variance in perceptions of a) Equality Matching b) Communal Sharing, c) Authority Ranking, and d) Market Pricing Relational Models.*

Relational Model preferences as a driver of perceiver effects

As mentioned above, one potential source of perceiver effects is a link between RM preferences and the enactment and projection of individual preferences onto relationships. For example, individuals who prefer Authority Ranking relationships may differentiate colleagues along a hierarchical criterion, responding alternately with behavioral deference or control and thereby manifesting their preference in their stable relational tendencies. Such a dynamic may occur without the "agreement" of interaction partners, yet be the relational schema adopted, and hence perceived, by the actor.

Going a step beyond manifesting preference, the projection of one's own preferred style onto relationship perceptions also has support in the literature. Evidence of projection of need responsiveness (a characteristic differentially associated with the various Relational Models) in relationships has been documented in three studies from Lemay, Clark and Feeney (2007) – supporting the notion of relationship orientation projection. They find that, like trust (Bergman et al., 2010), perceptions of communality in a relationship may be in the eye of the beholder. Their study of married couples finds that individuals projected their own degree of need responsiveness onto their significant other, as evidenced by deviations in reported spousal responsiveness versus spouses' self-reports (2007). Further investigation found that levels of need responsiveness projection predicted relational satisfaction. Thus, the authors theorize that these projections are critical in maintaining positive partner perceptions in communal relationships, particularly where one partner is highly responsive relative to the other (Lemay et al., 2007). As such, individuals may derive satisfaction from the application of their preferred Relational Model onto their interactions. As such, I theorize that:

> *Hypothesis 2: Relational Model preferences will predict perceiver variance in perceptions of a) Equality Matching b)*

Communal Sharing, c) Authority Ranking, and d) Market Pricing Relational Models.

Partner effects: Evoking relational models from others

Regularities in individual behaviors may also result in the evocation of general patterns of response across partners. In the case of Relational Models, this would mean that individuals have a general tendency to evoke particular Relational Model perceptions from their partners. Social Relations Modeling has found evidence for partner effects in relational behaviors linked to Relational Models – such as the evocation of cooperativeness (Bagozzi, Ascione, & Mannebach, 2005) and interpersonal aggressiveness (Card & Hodges, 2010). Of particular note, when interacting with demonstrably self-interested partners, more communally oriented individuals tend to adopt individualistic modes of interacting (Liebrand et al., 1986). Such adaptations to a partner's interpersonal style make sense given that an individual who persists in applying a CS relational style would be susceptible to exploitation by a more self-interested partner. As such, I suggest that:

Hypothesis 3: Partner effects will explain unique variance in perceptions of a) Equality Matching b) Communal Sharing, c) Authority Ranking, and d) Market Pricing Relational Models.

Evoking Preferences: Relational Model preferences and partner effects

If individuals are able to evoke certain Relational Models from others, a key question is whether individuals are able to evoke their preferred Relational Model. High levels of co-variance in preferred Relational Models and partner effects would suggest that individuals are able to do so. Such findings would support the notion that intentions can successfully translate into relational perceptions from partners.

But this is not necessarily the case. While some have pointed out the benefits of shared Relational Models for coordination (e.g. Haslam, 2005), not all models need to be shared to operate or benefit an individual. In particular, an actor's preference for a MP Relational Model does not rely on that model being shared by the partner to function. Rather, an individual with an MP orientation is likely to achieve greater personal gain by eliciting other-benefiting models from partners, which may be accomplished through temporarily adopting behaviors consistent with other relational modes (e.g. EM or CS). As such, a MP preference would not be expected to be linked to partner effects.

Another consideration as to whether an individual's preferred RM will manifest in partner effects is the consequences for partners of adopting the other's preferred Model. In particular, some preferred RMs are more likely to be beneficial for partners if adopted by them. Equality Matching and Communal Sharing relationships, if shared, create value for both parties by establishing trust, helping, and reciprocity through their mutuality - offering both instrumental and socioemotive value for both partners. Indeed, such models are likely only sustainable over time if they are shared. Authority Ranking relationships, on the other hand, are less symmetrical, and require one partner's willingness to defer. As I will discuss in my hypotheses regarding individual differences and AR partner effects, such asymmetric, hierarchical models are unlikely to lead to deference generally from one's partners. Based on the arguments that RM partner effects are contingent on the benefit to the actor of provoking their preferred model from others, and the consequences for the partner of adopting the other's preferred model, I hypothesize:

> *Hypothesis 4: Relational Model preferences will predict partner variance in perceptions of a) Equality Matching and b) Communal Sharing Relational Models.*

Actor-partner covariance

Previously, I suggested that individuals may evidence a tendency to perceive particular relational models across their relationships with others generally (perceiver effects). Further, I have suggested that individual behaviors can also evoke certain RMs across partners (partner effects). In Social Relations Modeling, actor-partner covariance refers to whether there is similarity in these two effects. In my the case of Relational Models, this would mean that the relational style one tends to perceive across coworkers is the sort of relationship others generally perceive themselves as having with that individual – an effect described as generalized reciprocity (Kenny, 1994).

Given the argument that the inherent cognitive architecture behind the four Relational Models is the basis for the interpersonal coordination of actors (Fiske, 1992, 1993, 1995; Fiske & Haslam, 2005; Fiske, Haslam, & Fiske, 1991; Haslam, 1994a, 1994b; Haslam & Fiske, 1992, 1999), the idea that there is consistency in the models people tend to perceive and the models they tend to evoke in others makes sense. For example, if an individual has a communal orientation (e.g. Kogan et al., 2010), one would expect them to

behave in need responsive ways toward their interaction partners (Lemay et al., 2007), and be perceived by partners as engaging in a CS relationship.

However, even with only four Relational Models, there is still significant room for idiosyncratic interpretations and misinterpretations of others' behaviors and motives, as well as the potential for unique interpersonal dynamics to unfold into a relationship specific model. For example, a coworker may ask for a favor that they intend to reciprocate in kind (EM); however, until they do, the perceiver has considerable leeway in interpreting the Relational Model they are engaged in with this person. Alternately, the interaction partner may perceive themselves as altruistically attending to the other's needs (CS).

Beyond ambiguities, an additional barrier to actor-partner covariance is that perceiver effects may serve to strongly filter and color the interpretations of others' behaviors. In a team, a particular member with a chronically activated Authority Ranking model may see their role as supporting a person with seniority that they perceive to be the group leader, and defer their own judgments and preferences. Meanwhile, other team members, including the "leader", may see the team as using an EM model. Without access to the unexpressed opinions of the AR perceiving member, teammates may perceive *agreement* in what are actually expressions of *deference*. Thus, I assess whether:

> *Hypothesis 5: There will be significant covariance in actor-partner effects in perceptions of a) Equality Matching b) Communal Sharing, c) Authority Ranking, and d) Market Pricing Relational Models.*

Relational effects: Interpersonally emergent Relational Models

Another potential source of the Relational Model is that it is specific to the *particular* relationship, rather than resulting from a general tendency to perceive a certain relationship, or the partner's general tendency to evoke certain Relational Models from their partners. To occur, this effect relies on a dynamic whereby "special" Relational Models may emerge. Such relationships are most often exemplified in exclusive CS relationships, such as romantic partnerships or "best" friendships – where it is generally suggested that it is neither a general tendency to love or be loved, but rather a match between particular individuals that drives the relationship. In the relationships literature, far less consideration has been given to the emergence of "special" non-CS relationships

(c.f. Liebrand et al., 1986). The lack of attention to such relationships may stem from the inherent "irregularity" implicit in such manifesting models and the lack of a clear interpersonal context in which such relationships might emerge (compared to friendships or romantic partnerships). But there is considerable functionality in tailoring one's relational style to the particular pattern of interaction that unfolds between specific individuals. Such dynamics suggest that interpersonally emergent Relational Models are likely to play a considerable role in relationship perceptions. As such, I propose that:

> *Hypothesis 6: Relational effects will explain unique variance in perceptions of a) Equality Matching b) Communal Sharing, c) Authority Ranking, and d) Market Pricing Relational Models.*

Interpersonal Agreement: Relational Covariance

Building on the notion of relationship specific Relational Models (i.e. *relational effects*), I suggest that when an "a-typical", emergent relationship is perceived with a certain other, these models are also likely to be reciprocated by the partner (i.e. relational reciprocity). That is, one's perception of a special relationship is likely to be matched by the partner's shared, special Relational Model perception. One rationale for this is that in order to overcome the influence of the general perceptual and evocative tendencies of each actor, there must be strong and consistent signals of the unique relationship type by both actors. Thus, unique Relational Models may require interpersonal reinforcement to persist.

> *Hypothesis 7: There will be significant covariance in relational effects between dyad partners in perceptions of a) Equality Matching b) Communal Sharing, c) Authority Ranking, and d) Market Pricing Relational Models.*

EXTRAVERION, AGREEABLENESS, GENDER AND THE PREFERENCE FOR, PERCEPTION, EVOCATION, AND EMERGENCE OF RELATIONAL MODELS

Up until this point, I have considered arguments for unique sources of variance in perceptions of Relational Models. In particular, I have hypothesized that Relational Model perceptions are a function of the perceptual tendencies of actors (perceiver effects), the tendencies of individuals to evoke certain Relational Models across partners (partner effects), and interpersonally emergent – reflecting the unique interaction of particular

actors (relational effects). Disentangling these sources of variance offers new insights into what relationships *are* through a better understanding of where relationships come from (i.e. actors, partners, and dyad specific dynamics). Here, I address second order questions regarding Relational Models, namely, what characteristics predict RM preferences, as well as perceiver, partner, and relational effects? Though many individual characteristics may be related to a person's tendency to prefer, perceive, evoke, and emergently create particular Relational Models, here I focus on gender and the Big Five personality characteristics most strongly linked to social tendencies, *extraversion* and *agreeableness* (Costa & McCrae, 1992).

Employers commonly use Big Five personality assessments in employee selection; as such, understanding how personality is linked to Relational Model preferences and emergence may be especially practical for managers. The stability of these traits also makes them particularly valuable as criteria on which to base managerial practices as their effects are likely to also be consistent over time (e.g. Judge, Higgins, Thoreson & Barrick, 1999). Further, t Big Five personality traits have received considerable attention in organizational behavior scholarship (Judge, Klinger, Simon, & Yang, 1985) and as such, investigating how these qualities relate to Relational Model emergence can link relationship perceptions to a variety of other personality-related organizational phenomena. In particular, the Big Five have been linked to relational dynamics such as LMX (Philips & Bedeian, 1994), TMX (Kamdar & Van Dyne, 2007; Kristof-Brown, Barrick, Stevens, 2005), mentoring (Turban & Dougherty, 1994), and social networks (Asendorf & Wilpers, 1998). The work presented here on personality and Relational Models can substantially inform these findings by suggesting that personality may be influencing interpersonal outcomes via Relational Models.

With regard to Relational Model preference, surprisingly little research has investigated the influence of such individual dispositions. Biber, Hupfeld, and Meier (2008) highlight this omission, noting only one study (in addition to their own, i.e. Goodwin & Tinker, 2002) which tests the linkages between relational preferences and personal values. One other study conducted in an outpatient psychiatric population has linked personality to Relational Model preference and descriptions of RMs with a self-generated list of partners (Caralis & Haslam, 2004). In contrast, a considerable amount of

research has also been devoted to the relational consequences of gender (e.g. Eagly & Johnson, 1990; Fletcher, 2001; Gabriel & Gardner, 1999; Kirkpatrick & Davis, 1994). In my consideration of gender's implications for relationship style preference, I will focus on recent research on the physiological factors underlying the hypothesized effects.

In employing Social Relations Modeling, the research presented here is the first to link characteristics of perceivers and partners to the unique sources of RM perception variance. As such, the hypotheses developed here are meant to elucidate which individual differences are linked to a) general perceptions of certain RMs, b) RMs generally evoked from others, and how c) dyad characteristics are related to emergent variance in particular Relational Models (relational effects).

As mentioned in the prior section, there is likely to be a strong link between the relationship a person wants, and their perceptual tendencies in a particular relationship. Such projection may create self-fulfilling cycles of interpersonal behavior that help realize one's preferred RM. On the basis of the likely linkages between desired and perceived RM, this section is also devoted to hypothesizing the personality and gender links to RM preference, as well as to perceiver, partner, and relational effects.

In the following pages, I will consider the many ways these qualities have been (and can be) linked to relational tendencies, and their implications for predicting the three sources of Relational Model perceptions. In particular, I first consider the linkages between these factors and relationship perceptions that are in the eye of the beholder – that is, generally perceived across relationships, as well as factors linked to the provocation of certain RMs in the eyes of others – generally, across one's partners. I then turn my attention to the qualities of dyads likely to lead to Relational Model emergence – in particular I focus on the extraversion and agreeableness of dyad partners and their relatedness to emergent CS relationship perceptions (relational effects).

Agreeableness, the Preference for Equality Matching Relationships, and Partner Effects

The personality trait *agreeableness* is strongly associated with interpersonal phenomena. Agreeableness has been linked to prosocial orientation, helping behaviors, self-sacrifice, and the degree to which individuals tend to value the outcomes of others

relative to themselves (Costa & McCrae, 1992; Graziano, Habashi, Sheese, & Tobin, 2007; Lemay et al., 2007). These tendencies represent significant interpersonal investments, and relationships that offer reciprocal, high levels of investments from others are suggested to make Equality Matching relationships, which are based on balance and reciprocity, preferred.

Hypothesis 8a: Agreeableness will be positively related to Equality Matching Relational Model preference.

In considering a potential link between perceiver and partner effects, useful insights come from research from Dawes, McTavish, and Shaklee (1977) and Van Lange (1997), which suggest that agreeable, highly giving individuals tend to hold others to their own high standards for other benefiting behavior. As mentioned above, when an individual invests heavily in their relationships, reciprocity is critical for making these investments sustainable over time. If individuals who invest heavily in others also presented a tendency to perceive their relationships as EM generally, regardless of the partner, this perception could be especially costly. Given the risk of over investing in others, and the link between one's own degree of agreeableness and the standard for other benefitting behavior others are held to, I do not predict a link between agreeableness and a general tendency to perceive EM relationships across partners (perceiver effects).

However, a willingness to engage in other benefiting behavior is likely to have an effect on one's partners. Research on reciprocity by Cialdini (1995) and Gouldner (1960) has unpacked the powerful social motive of reciprocity. Feelings of indebtedness (Cottrell, Eisenberg & Speicher, 1992; Greenberg, 1980; Greenberg & Westcott, 1983) and discomfort with the imbalance created when others provide resources (e.g. Hatfield & Sprecher, 1983) create a powerful motive to reciprocate. Cialdini and colleagues have even found that the reciprocity effect even occurs when what is being offered is not desirable, still resulting in concessions from the partner (1975). As agreeableness is linked to a tendency to engage in other-benefiting behaviors, and others are generally predisposed to respond in kind to benefits provided by others, I expect that a tendency toward such behavior can trigger the cycles of balanced exchange and trust that characterize Equality Matching relationships.

Hypothesis 8b: Agreeableness will be positively related to Equality Matching partner effects.

Agreeableness, the Preference for Communal Sharing Relationships, Partner, and Relational effects

Beyond establishing balanced exchange, the willingness to benefit others can also be the basis for close, high trust, CS relationships. Indeed, research into the neurochemistry behind other-benefiting behavior suggests that individuals who engage in such acts may be strongly, biochemically rewarded for CS indicative behaviors such as self-sacrifice, prosociality, and cooperation (e.g. Bernhardt et al., 1998; Booth et al., 1989, Charney, 2004; Kogan et al., 2010; Mazur 1985; Mazur & Lamb, 1980). For example, dopamine profiles have been linked to greater sensitivity to positive and negative stimuli and the tendency to help others (Charney, 2004). Self-sacrifice has also been also been linked to the experience of positive affect in "communally oriented" individuals (Kogan et al., 2010). As such, the tendency to experience rewards from other benefiting behaviors may thus lead one to prefer certain Relational Models in relationships which allow one to engage in psychologically and physiologically reinforcing behaviors. Given the links between agreeableness, other benefiting behaviors and need responsiveness, agreeable individuals may find a CS Relational Model intrinsically more satisfying, and prefer CS relationships in proportion to their degree of agreeableness.

Hypothesis 9a: Agreeableness will be positively related to Communal Sharing Relational Model preference.

With regard to a potential link between agreeableness and a Communal Sharing perceiver effect – a similar rationale to the one presented above for an agreeableness-EM perceiver effect relationship is also fitting. Namely, the more agreeable an individual is, i.e. the more they are likely to provide benefits to, and are sensitive to the needs of others, the more costly CS relationships are. This holds to the extent that the time and resources they can devote to others are scarce, and are also important for personal well-being. As such, a tendency to generally perceive one's self as engaged in CS relationships across

partners could be highly costly, and ultimately unsustainable. Mirroring the arguments above, a general tendency for perceiving/enacting CS relationships with partners is also suggested to be unlikely given the tendency to hold others to the standard of one's own degree of other benefiting behavior (Dawes, McTavish, & Shaklee, 1977; Van Lange, 1997). As such, I do not expect agreeableness to be linked to a general tendency to perceive CS relationships across partners (perceiver effects).

However, I do expect that agreeableness will generally evoke a CS model from others to some degree. The general willingness to benefit others is suggested to provoke mutuality in concern and interpersonal closeness. The qualities associated with agreeableness have been linked to people's tendency to form socioemotive bonds with a focal individual – a basis for close relationships (Wojciszke, Abele, & Baryla, 2009; Wortman & Wood, 2011). Indeed, evidence from the interpersonal perception literature finds that individuals place an exceptionally strong, positive value on the benevolent tendencies of others in their judgments of them (Wojciszke, Bazinska, & Jaworski, 1998). In addition, agreeableness may also be related to an individuals' tendency to create an interpersonal environment that is conducive to closeness. For example, highly agreeable individuals tend to have low levels of interpersonal conflict in their relationships (Suls, Martin, & David, 1998), and encountered conflicts tend to be solved in mutually beneficial ways (Graziano, Jensen-Campbell, & Hair, 1996). These conditions are likely to engender the high levels of trust also characteristic of CS relationships (Fiske, 1992). As such, I expect that:

> *Hypothesis 9b: Agreeableness will be positively related to Communal Sharing partner effects.*

Given the particularly high levels of need responsiveness and other benefit typical of CS relationships, the strong tendency for agreeable individuals to benefit others, and the tendency to judge others on one's own standard of other benevolence, I suggest that CS relationships are particularly likely to emerge among similarly agreeable individuals (relational effect). As mentioned above, there are significant risks and costs associated with over-investing in others who are insensitive to partner needs and/or do not reciprocate need responsive behavior.

In romantic relationships, perceived parity in need responsiveness has been argued to be a key factor in the maintenance of close relationships (Lemay et al., 2007). Indeed, self-selected matching of individuals on the basis of agreeableness may provide an alternative explanation for the low levels of interpersonal conflict observed in highly agreeable individuals' relationships (e.g. Suls et al., 1998) – suggesting that partners' degree of agreeableness has important social consequences for the selection of partners and maintenance of relationships. On the basis of these arguments, I suggest:

> *Hypothesis 9c: Similarity in coworker agreeableness will be positively related to relationally emergent variance in Communal Sharing relationship perceptions.*

Extraversion, the Preference for Communal Sharing Relationships, Perceiver effects, and Partner effects

E*xtraversion* also manifests strongly in the social behavior of individuals. Highly extraverted individuals seek out social stimulation (Ashton, Lee, & Paunonen, 2002; Eysenck, 1967) and membership in groups (Zafar & Meenakshi, 2012). With regard to relationship style preferences, extraverts also tend to seek out high levels of support from others (Eastberg et al., 1994). A high need for social support suggests that extraverts are likely to have a preference for CS relationships with others, and hence may engage in self-fulfilling cycles of preference, projection, and evocation to realize CS Relational Models. Further, unlike agreeable individuals, who would run the risk of over-investing to the detriment of themselves if they generally perceived CS relationships with others, extraverts' high need for social support suggests that they strongly benefit from enacting CS relational models with others. The need for social support may also play a role in evoking CS Relational Models from others (i.e. partner effects). Indeed, extraverts also tend to engage in a variety of behaviors associated with the Communal Sharing Relational Model. Specifically, extraverts are more likely to engage in "affectionate" behavior with others (frequent communication, compliments) that are important in developing close relationships (Hays, 1984). The high levels of social interaction associated with this personality trait may also create relational closeness through proximity effects. Thus I suggest that:

Hypothesis 10a: Extraversion will be positively related to an individual's Communal Sharing Relational Model preference.

Hypothesis 10b: Extraversion will be positively linked to perceiver effects in Communal Sharing Relational Model perceptions.

Hypothesis 10c: Extraversion will be positively related to Communal Sharing partner effects.

While the personality trait of extraversion has significant implications for the sociality of individuals generally, little work has examined how this quality affects dyadic, relationship specific perceptions (i.e. relational effects). Some research has linked extraversion similarity to coworker satisfaction and attraction to hypothetical coworkers (Liao Joshi, & Chuang, 2004; Tett & Murphy, 2002), though without accounting for the different sources of variance in these dependent variables (e.g. actor, partner, or relational effects). In the context of interpersonal collaboration, Jackson and colleagues found that extraversion similarity among college athletes and coaches was related to relational commitment (2011). However, the link between the extraversion of dyad partners and relationally emergent variance in the Relational Model perceptions of close relationships has yet to be considered.

Some support for how the extraversion of dyad partners may be related to the emergence of closeness comes from Palmer and Byrne (1970), who found that extraversion similarity was related to interpersonal attraction towards strangers. Attraction, and the socioemotive bonds based in extraversion similarity, may occur because similarly extraverted/introverted individuals may provide each other similarly desired levels of social stimulation. The tendency to seek out the company of others has been suggested to reflect biological drivers for stimulation, such as high/low baseline levels of cognitive activity engendering a desire for compensatory/complementary levels of social stimulation (Eysenck, 1967). The tendency to seek out the company of others has also been linked to variance in neurobiology that differentially, chemically rewards affiliative behavior across individuals (Depue, & Morrone-Strupinsky, 2005). As such, similarity in extraversion may make the intensity of the social interactions positively reinforcing, creating and reinforcing

socioemotive bonds, and engendering greater closeness, higher valuation of the other, and greater other valuing (CS) behavior.

Further evidence for how extraversion similarity may be related to emergent CS variance comes from research on social support. As noted above, extraverts tend to need higher levels of social support from others (Eastburg et al., 1994; Swickert et al., 2002). As such, partners similar in extraversion may be especially likely to develop a close CS relationship through their tendency to provide and reciprocate social support at desired levels for one another.

> *Hypothesis 10d: Similarity in coworker extraversion will be positively related to relationally emergent variance in Communal Sharing relationship perceptions.*

Extraversion, preference for Authority Ranking Relationships and Perceiver Effects

Importantly, the link between personality and RM preference are not necessarily mutually exclusive. Beyond a link to close relationships, extraversion is also in part defined as trait dominance (McCrae & Costa, 1987), and as such, is suggestive of a link between this characteristic and hierarchical relationships. Specifically, extraversion is in part defined by a desire to lead others (Costa & McCrae, 1992), and has been linked to a propensity to engage in more non-verbal dominance displays (Mehrabian, 1996), to dominate conversations (Carlston, 1977), and to argue more in small group discussions (Nussbaum, 2002). These propensities are suggested to reflect both a preference for dominance, as well as a tendency to see one's relationships in terms of hierarchy.

> *Hypothesis 11a: Extraversion will be positively related to an individual's Authority Ranking Relational Model preference.*
>
> *Hypothesis 11b: Extraversion will be positively linked to perceiver effects in Authority Ranking Relational Model perceptions.*

Whether extraversion is linked to partner effects in Authority Ranking relationships, however, is less clear. In particular, an extraverted person's desire to lead and dominate may not equate to others' submission or desire to be lead. Thus, the more complicated dynamics involved in establishing leader-follower relationships among

individuals of equal status in an interaction are suggested to undermine partner effects in AR generally (as discussed in the section on actor-partner covariance), as well as in the specific case of extraversion–AR partner effects. In particular, to the extent that partners are also extraverted to some degree, or possess other characteristics that also result in a preference for leadership (or a general dissatisfaction with inequality), a link between an individual's extraversion and AR partner effects is far from assured. As such, extraversion is not suggested to predict AR partner effects.

Gender, Preference for Authority Ranking Relationships, and Perceiver Effects

A tendency for men to have more hierarchical relationships, pay greater attention to hierarchy, and a stronger desire for dominance has been suggested to have a biochemical basis. Testosterone has been linked to dominance (e.g. Mazur, 1985), and testosterone levels in men have been observed to rise in response to increases in social status (Mazur & Lamb, 1980). Dominance, even when experienced vicariously (e.g. when men watch their favorite team win), has been linked not only to higher testosterone, but has been further linked to increases in self-esteem and self-confidence (Bernhardt et al., 1998). As such, male biochemistry may drive a tendency to prefer and perceive relationships in terms of a hierarchical Relational Model.

> *Hypothesis 12a: Gender will be related to Relational Model preference such that men will tend to prefer Authority Ranking relationships.*
>
> *Hypothesis 12b: Gender will be related to Relational Model perceptions such that men will perceive themselves as in Authority Ranking relationships (perceiver effect).*

As noted in my discussion of partner effects and perceiver RM preferences (see hypotheses 4a & b), and above in my discussion of an extraversion-AR partner effect link, AR partner effects are premised on partners' adoption of either a leader or follower role. The disadvantage to the partner in regard to control and resources as a function of deferring to another's leadership preference and perceptions (particularly to the degree that the partner is extraverted and male), and the invalidity of "maleness" as a legitimate basis for control

(and deference from others) makes such partner effects unlikely, and as such, are not predicted here.

Gender, Preference for Market Pricing Relationships, and Perceiver Effects

The observation that men tend to be more competitive has been suggested to be rooted in the evolutionary pressures on men to demonstrate fitness as mates (e.g. Buss, 1989). The evolutionary argument for competitiveness in males is further supported by research that links competitiveness with reinforcing biochemistry in men. For example, for men, anticipated competition is associated increases in testosterone, as well as with more positive mood in males (Booth et al., 1989). The positive physiological, affective, and cognitive consequences of competition and dominance (Bernhardt et al., 1998; Booth et al., 1989, Mazur 1985; Mazur & Lamb, 1980) may both reinforce and predispose men to adopt more competitive, dominance oriented relationship perceptions. Beyond predisposition, competitiveness is also more easily primed in males, a finding that has prompted some competitiveness researchers to restrict their subject pools to men (e.g. Sambolec, Kerr, & Messé, 2007). An orientation toward competitiveness is also supported in research by Wall (1976), who finds that men engage in negotiation longer, and more competitively than women. As self-interested competitiveness and attempts to improve one's position are characteristic of Market Pricing relationships, I suggest that:

> *Hypothesis 13a: Gender will be related to Relational Model preference such that men will tend to have a Market Pricing Relational Model preference.*
>
> *Hypothesis 13b: Gender will be related to Relational Model perceptions such that men will perceive themselves to be in Market Pricing relationships (perceiver effect).*

Gender and Communal Sharing Partner Effects

Beyond preferences and perceiver effects, gender may also evoke a particular RM response from others. In particular, there is a pervasive and widely held stereotype that women are communally oriented (e.g. Diekman & Eagly, 2000; Prentice & Carranza, 2002; Williams & Best, 1990). This perception may be based in the degree to which

women tend to fulfill more communal roles in society (Eagly & Steffen, 1984). Given my prior arguments that CS relationships are likely to be adopted by partners given reciprocity norms (e.g. Cialdini, 1975, 1995; Gouldner, 1960), and the positive consequences of communality when this RM is mutually shared (see hypothesis 4a), the presumption that female partners operate under communal norms may evoke more communal relational responses and perceptions from partners.

Gender-based Communal Sharing partner effects may also be evoked by real differences in the social awareness of women as relational partners as opposed to men. In particular, women show a general tendency toward higher social sensitivity, with implications for relational behaviors, interaction patterns, and the collective outcomes of groups (e.g. Woolley et al., 2010). Because attentiveness to the needs of others is indicative of a CS relational model, individuals interacting with a female partner may interpret her awareness of their perspective and emotions as indicative of concern and care, and may thereby respond with a "reciprocal" CS orientation. The role of gender stereotypes and social sensitivity in provoking CS response support the notion that:

> *Hypothesis 14: Gender will be related to evoked Relational Models such that women will evoke perceptions of Communal Sharing relationships from partners (partner effect).*

A summary of the hypothesized relationships are presented in Figure 5 and Figure 6

FIGURE 5: Interrelationships among Components of Relational Model Perceptions and Preferences

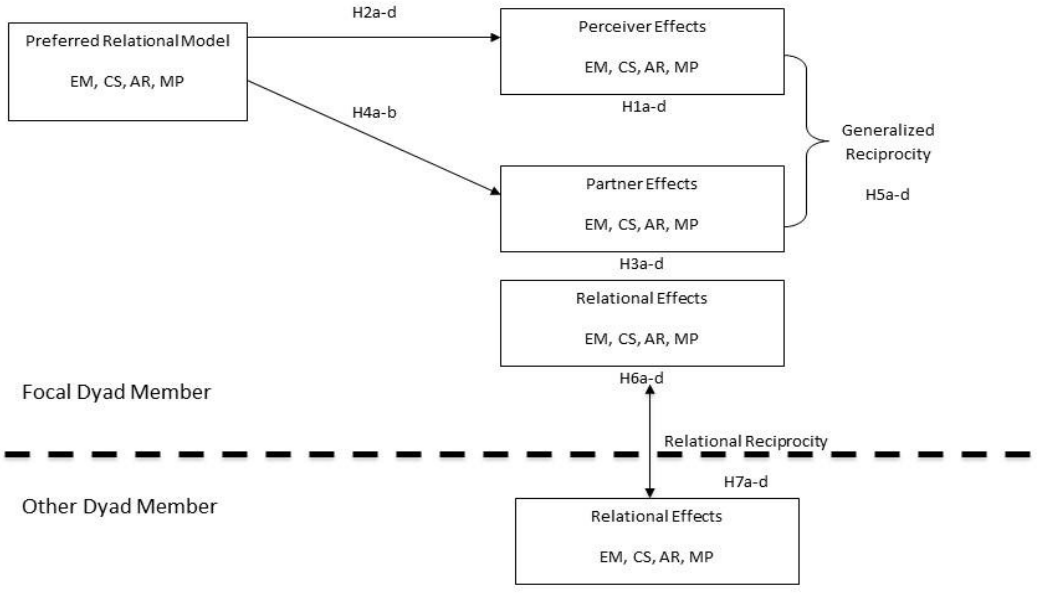
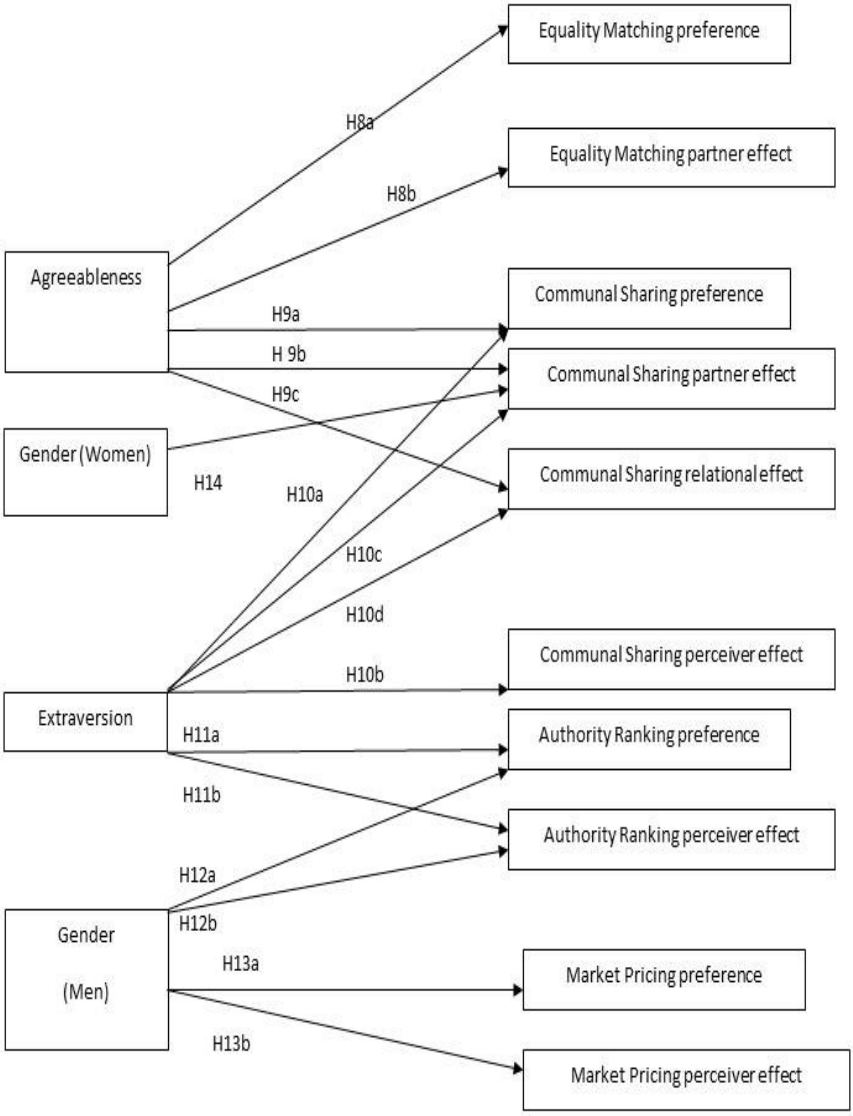


FIGURE 6: Hypothesized Relationships between Individual Differences, Relational Model Preferences and Perception Components



METHODS

Participants and procedure

To test the hypotheses proposed above, data was collected from 890 undergraduate business students at a large university in the Netherlands. These participants were working in project teams (n = 178, mean group size = 4.97) at various companies. Over the course of 10 weeks, the business students were tasked with conducting an organizational analysis, developing a business case about a problem facing the organization, and outlining recommendations for addressing the challenges identified. During the first week of the project, 890 participants completed an electronic survey on their personality and gender. From the original sample, 880 subsequently reported their Relational Model preference. In a follow-up survey during the eighth week of the project, 874 individuals also reported their dyadic Relational Models with each of their teammates. Thus, perceptions of 3,409 dyadic relationships were collected from 874 individuals nested in the 178 teams. The team project constituted 40 percent of the students' final grade in a course on Organizational Theory and Development.

Measures

Relational Model preference. In order to assess general preferences for particular Relational Models, participants were presented with a slightly modified version of a scale developed by Haslam and Fiske (1992) in an online survey. A one paragraph description of each relational model was presented, along with a two items asking participants to rate the degree to which "It is very important to me that I have relationships of this kind" and "I am very satisfied with my relationships that are like this". Example passages include statements such as: In your relationships … "you feel that 'what's mine is yours' and that what happens to the other people is nearly as important as what happens to you." (Communal Sharing), "you each keep track of the ratio of your 'costs' (in terms of money, time, effort) in relation to your 'benefits'" and "When it comes down to it, you each choose to participate when it is profitable in terms of what you have to invest and the rewards that you get out of it" (Market Pricing), "What you each want is equal treatment and equal shares" (Equality Matching). "One of you makes most of the decisions and the other one goes along with that person's choices" (Authority Ranking). Answers were

indicated on a seven point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (7). The Cronbach's alpha for these scales were .77 (Communal Sharing), .84 (Market Pricing), .81 (Equality Matching) and .88 (Authority Ranking).

Dyadic Relational Models. Using the modified version of Haslam and Fiske's (1992) scale, participants were asked to rate the extent to which the description of each of the Relational Models described their relationship with each member of their team, with the names of each team member presented along with a seven item Likert scale anchored at Strongly Disagree (1) and Strongly Agree (7).

Big Five personality traits. In the first week of work on their team projects, study participants completed an online survey as to their Big Five personality traits of *openness*, *conscientiousness*, *extraversion*, *agreeableness*, and *neuroticism*. Each dimension was assessed with 10 items from the International Personality Item Pool (Goldberg et al., 2006). Some items were negatively worded and reverse scored and the order of item presentation was randomized. Answers were indicated on a five item scale with participants indicating the extent to which the personality items described them. On this scale, one indicated strong disagreement and five indicated strong agreement.

Analyses

Social Relations Modeling. To analyze Relational Model perceptions reported by study participants, univariate, manifest Social Relations Modeling of responses was conducted in R using Schmukle, Schönbrodt, and Back's (2011) Triple R software package. The SRM approach takes into account the nested structure of responses within individuals, nested in dyads within a team. This analysis identified perceiver, partner, and relational sources of variance in reported Relational Models, and the percentage of variance attributable to each. The size of these sources of variance was calculated for the sample overall and the significance of each source of variance was assessed with a t-test. In order to assess relationships between individual characteristics and perceiver and partner effects, perceiver and partner variance scores were calculated for each individual in the study for subsequent analysis with multiple regression. Calculated actor and partner scores were also used to test generalized reciprocity (actor-partner covariance) –whether individuals' perceiver effects in RMs matched the RMs evoked from partners.

Covariance of actor and partner effects in the sample overall is also assessed using a t-test, as is relationship covariance. The latter build on covariance in relational effects among actors and partners to assess whether specific (rather than generalized) reciprocity in Relational Model ratings exist, i.e. those who rate a RM with a particular dyad member strongly relative to other dyad members are more likely to have their Relational Model assessment reciprocated.

Potential for common-method bias. The relationship between personality and Relational Model preference could reflect their measurement from a common source, and potentially inflate these relationships. Although there is considerable debate as to whether or not common method bias is a substantial threat to (e.g. Meade, Watson, & Kroustalis, 2007; Spector, 2006), I take steps to mitigate it. Specifically, questionnaires for personality and the Relational Model measures were administered at different times, with items randomly presented to respondents. This approach is recommended by Podsakoff and colleagues (2003). Further, given the structure of my data, the most appropriate common method remedy is the general factor covariate technique (Podsakoff et al., 2003). This procedure involves conducting exploratory factor analysis for all measured scale items, creating a scale-centered score that represents the first, unrotated factor (approximating the common method variance), and then assessing whether statistically controlling for this new factor changes the hypothesized relationships. Following these procedures did not change the direction of statistical significance of any of the hypothesized relationships. Given the length of this article, these partial correlations are not reported, but are available upon request.

Polynomial regression and Response Surface Analysis. In the analysis of antecedents of relational variance presented here, polynomial regression and Response Surface Analysis are employed to assess how the respective personality characteristics of dyad members relate to relational variance in Relational Models. Perceiver and partner characteristics are centered on the scale midpoint, and these components, their squared terms, and their interaction term are entered into a polynomial regression equation. For example:

$$b_0 + b_1X + b_2Y + b_3X^2 + b_4XY + b_5Y^2 + e = CS_y$$

Above, X and Y refer to the mean centered personality dimension score for dyad member X and Y respectively. CS_y refers to the relational variance in perceiver X's Communal Sharing rating with teammate Y. If the regression model is significant, the constant, unstandardized beta weights, standard errors, and component covariances are used as inputs for Response Surface Analysis. Specifically, t-tests can be used to assess four aspects of how components contribute to variance in the dependent variable. These aspects include the slope of the line of agreement in perceiver/partner scores (a^1), which indicates whether the amount of a characteristic in a dyad has a positive (or negative), linear relationship to the dependent variable of interest ($a^1 = b_1 + b_2$). Response Surface Analysis can also test whether the overall value of a dyad characteristic is significantly and non-linearly related to the outcome of interest (i.e. $a^2 = b_3 + b_4 + b_5$). Test statistics a^3 and a^4 can be used for assessing the effects of incongruence in perceiver and partner component scores. In particular, the statistic a^3 ($a^3 = b_1 - b_2$) indicates the consequences of the relative value of one independent variable component compared to the other, while a^4 ($a^4 = b_3 - b_4 + b_5$) can be used to test for non-linear effects of discrepancies in input components on the dependent variable. These relationships are plotted in three dimensions, where height reflects values on the dependent variable, while the two lateral spatial dimensions refer to values of the input components. Spatial representations of variation in relationships across component values can reveal unique patterns of relationships for subgroups with particular constellations of component values within the sample.

RESULTS

In this research, I first assessed the possibility of unique sources of variance in perceptions of the four Relational Models. Social Relations Modeling of Relational Model perceptions revealed significant perceiver effects, and relationship effects for perceptions of Communal Sharing, Market Pricing, Equality Matching, and Authority Ranking relationships (Table 1) – supporting H1a–d and H6 a–d. Partner effects were found for each of the Relational Models with the exception of MP partner effects, supporting H3a, b, and c, but not H3d. This analysis also revealed large differences in the relative contribution of these three sources of variance in Relational Model perceptions. For example, across the four models, perceiver effects are much larger than partner effects – suggesting that

Relational Model perceptions are strongly driven by the general tendencies in relationship perceptions, rather than the general tendencies of individuals to evoke certain RM perceptions from their partners. Relationship effects also play a substantial role in RM perceptions, with a significant portion of RM perceptions being emergent, specific to the relationship between a particular perceiver and their partner. Indeed, perceiver and relationally emergent Relational Model perception effects together account for the overwhelming majority of Relational Model perceptions – though there is also evidence of interesting differences among the RMs. In particular, perceiver effects played a far larger role in Market Pricing RM perceptions than relational effects. Indeed, MP perceiver effects were substantially larger for MP relational perceptions than the other Relational Models. This suggests that, more than for other kinds of relationships, Market Pricing relational perceptions are particularly strongly driven by the perceiver's general tendencies, rather than evoked by partners generally, or in reaction to specific others.

TABLE 5: Variance Components of Dyadic Relational Models

Variance (standardized)	Communal Sharing	Market Pricing	Equality Matching	Authority Ranking
Perceiver effects	0.409***	0.648***	0.472***	0.516***
Partner effects	0.084***	0.011	0.059**	0.048***
Relationship effects	0.507***	0.341***	0.470***	0.436***
Actor-Partner covariance	-0.025	0.115	0.022	0.104
Relationship covariance	0.459***	.099**	0.090*	0.018

* p < .05, ** p < .01, *** p < .001

The actor-partner covariance statistic presented in Table 5 provides insight as to whether an individual's tendency to perceive Relational Models (perceiver effects) is related to their general tendency to evoke those RMs from others (partner effects). This research does not find support for generalized reciprocity for any of the four relational models (Hypotheses 5a–d). Alternately, relationally specific reciprocity was significant for three of the four models (CS, MP, and EM). These findings indicate that when an individual perceives themselves to be in a "special" relationship that is uncharacteristic of

perceiver and partner Relational Model tendencies, then the perceived Relational Model for that relationship tends to be reciprocated by the partner (i.e. significant relationship covariance) – supporting Hypotheses 7a, b, and d, but not 7c (Authority Ranking). Of particular note, the predictive power of special relationship perceptions in predicting RM reciprocity is especially strong for Communal Sharing relationships relative to the other RMs (i.e. CS relational reciprocity = 0.459^{***}, MP = $.099^{**}$, EM = 0.090^{*}).

This research also assessed the relationship between Relational Model preference and perceiver and partner effects (Table 2). Bivariate correlations support for the notion that the relationship types individuals generally tend to see reflect their preferred Relational Models (H2a-d). This finding may reflect a perceptual bias, or actual relational dynamics, such as one's own stable, preferred relational behavior across relationships manifesting in one's perceptions. The connection between Relational Model preferences and one's tendency to evoke those RMs across partners (partner effects) were also assessed. Significant correlations support H4a and H4b, with preferences for Equality Matching and Communal Sharing relationships linked to evoked Relational Models (partner effects). Means, standard deviations, and correlations are presented for all variables in Table 6.

TABLE 6: Coworker Relationships: Descriptive Statistics and Correlations

Concept	Mean	Std. Deviation	N	1		2		3		4		5		6		7		8		9		10
1. Openness	3.32	0.43	890	(0.63)																		
2. Conscientiousness	3.62	0.37	890	0.21	**	(0.68)																
3. Extraversion	3.71	0.43	890	0.34	**	0.34	**	(0.77)														
4. Agreeableness	3.44	0.39	890	0.15	**	0.24	**	0.00		(0.63)												
5. Neuroticism	2.46	0.46	890	-.079	*	-0.13	**	-0.29	**	-0.07	*	(0.72)										
6. Gender	1.32	0.47	880	-0.01		0.10	**	0.02		0.24	**	0.19	**	--								
7. Communal Sharing preference	5.31	1.06	880	0.11	**	0.07	*	0.10	**	0.11	**	0.00		0.03		(0.77)						
8. Market Pricing preference	4.01	1.37	880	0.02		0.02		0.12	**	-0.19	**	-0.02		-0.18	**	-0.05		(0.84)				
9. Equality Matching preference	5.08	1.15	880	0.02		0.14	**	0.05		0.10	**	0.01		0.06		0.07		0.13	**	(0.81)		
10. Authority Ranking preference	3.69	1.39	880	0.04		0.06		0.11	**	-0.10	**	0.03		-0.20	**	0.04		0.30	**	0.03		(0.88)

TABLE 6: Coworker Relationships: Descriptive Statistics and Correlations

Concept	Mean	Std. Dev.	N	1		2		3		4		5		6		7		8		9		10	
11. Perceiver Communal Sharing	0.00	1.04	874	-0.07	*	0.03		0.06		0.01		-0.03		-0.08	*	0.28	**	0.08	*	0.03		0.09	**
12. Perceiver Market Pricing	0.00	1.19	874	0.08	*	0.03		0.04		-0.05		0.08	*	-0.09	**	-0.05		0.38	**	0.03		0.16	**
13. Perceiver Equality Matching	0.00	0.91	874	-0.081	*	0.07	*	0.04		0.04		-0.09	*	-0.03		0.06		0.09	**	.290	**	0.02	
14. Perceiver Authority Ranking	0.00	1.08	874	0.06		0.11	**	0.08	*	0.03		0.03		-0.07	*	0.02		0.21	**	0.03		0.34	**
15. Partner Communal Sharing	0.00	0.68	874	-0.03		0.04		0.04		0.07	*	-0.01		0.12	**	0.09	*	-0.04		0.05		-0.01	
16. Partner Market Pricing	0.00	0.45	874	0.01		0.07		0.00		0.00		0.03		-0.03		-0.01		0.02		0.02		0.02	
17. Partner Equality Matching	0.00	0.51	874	-0.03		0.04	*	-0.01		0.08	*	-0.03		0.06		0.02		-0.02		.075	*	-0.01	
18. Partner Authority Ranking	0.00	0.56	874	0.03		0.10	**	0.01		0.07	*	0.02		0.07	*	-0.06		-0.03		0.03		-0.01	

Note: *p < .05; **p< .01;

(two-tailed tests)
Note: Cronbach alpha reliability statistics are provided along the diagonal

TABLE 6: Coworker Relationships: Descriptive Statistics and Correlations

Concept	Mean	Std. Deviation	N	11		12		13		14		15		16		17
11. Perceiver Communal Sharing	0.00	1.04	874	--												
12. Perceiver Market Pricing	0.00	1.19	874	0.00		--										
13. Perceiver Equality Matching	0.00	0.91	874	0.19	**	0.11	**	--								
14. Perceiver Authority Ranking	0.00	1.08	874	0.14	**	0.37	**	0.07	*	--						
15. Partner Communal Sharing	0.00	0.68	874	0.26	**	-0.14	**	0.01		-0.04		--				
16. Partner Market Pricing	0.00	0.45	874	-0.11	**	0.15	**	0.11	**	0.08	*	-0.33	**	--		
17. Partner Equality Matching	0.00	0.51	874	0.07		-0.07		0.14	**	-0.06		0.51	**	0.07	*	--
18. Partner Authority Ranking	0.00	0.56	874	-0.06		0.02		-0.01		0.15	**	0.12	**	0.15	**	0.11

Note: *p < .05; **p< .01; (two-tailed tests)

Note: Cronbach alpha reliability statistics are provided along the diagonal

Coworker Relationships

The research conducted also assessed the linkages between Big Five personality characteristics and Relational Model preferences, perceiver effects, partner effects, and relational effects. Table 7 presents findings of the links between personality and Relational Model preference. In particular, Communal Sharing preference is significantly related to agreeableness (H9a) and extraversion (H10a). Market Pricing relationship preference was linked to gender (males) (H13a). Agreeableness is also associated with Equality Matching preference (H8a) and Authority Ranking preference is associated with gender (male) (H12a) and extraversion (H11a).

TABLE 7: Personality and Gender as Predictors, Unstandardized Regression Coefficients

	Communal Sharing Preference			Market Pricing Preference			Equality Matching Preference			Authority Ranking Preference		
	B		S.E.	B		S.E.	B		S.E.	B		S.E.
Intercept	2.731	***	.587	4.298	***	.737	2.643	***	.637	2.032	**	.751
Openness	.169	*	.089	-.005		.112	-.063		.097	.008		.114
Conscientiousness	.012		.107	.131		.134	.393	***	.116	.251	*	.137
Extraversion	.214	*	.096	.392	***	.121	.050		.104	.380	*	.123
Agreeableness	.285	*	.100	-.555	***	.126	.222	*	.109	-.198		.128
Neuroticism	.084		.083	.119		.104	.084		.090	.333	*	.106
Gender	-.007		.080	-.442	***	.101	.048		.087	-.627	***	.103
N	873			873			873			873		
R^2	0.03	**		0.07	**		0.03	**		0.07	**	

Note: *p< .05, **p < .01,
***p< .001

(one-tailed tests)

Coworker Relationships

Personality was also linked to perceiver and partner effects in Relational Model perceptions. Agreeableness emerged as the only personality characteristic linked to partner effects in Equality Matching relationships supporting hypothesis H8b (Table 8). As presented in Table 9, CS perceiver effects are related to extraversion (H10b), and I also find support for a general tendency for women to evoke CS relational model perceptions from their partners (H14). Market Pricing perceiver effects were found for men, supporting H13b (Table 10). Relationships between perceiver effects in Authority Ranking were found for extraversion (H11b) and men (H12b), as presented in Table 11.

TABLE 8: Personality and Gender as Predictors, Unstandardized Regression Coefficients

	Perceiver effect variance in Equality Matching				Partner effect variance in Equality Matching		
	B		S.E.		B		S.E.
Intercept	.020		.508		-.182		.287
Openness	-.252	***	.077		-.047		.043
Conscientiousness	.163	*	.092		.050		.052
Extraversion	.080		.083		-.025		.047
Agreeableness	.095		.086		.082	*	.049
Neuroticism	-.128	*	.072		-.039		.040
Gender	-.063		.069		.050		.039
N	873				873		
R^2	.02	**			.01		

Note: *p < .05, **p< .01, ***p<.001, (one-tailed tests)

TABLE 9: Personality and Gender as Predictors, Unstandardized Regression Coefficients

	Perceiver effect variance in Communal Sharing				Partner effect variance in Communal Sharing		
	B		S.E.		B		S.E.
Intercept	-.280		.582		-.459		.380
Openness	-.269	**	.088		-.087		.057
Conscientiousness	.044		.106		.021		.069
Extraversion	.223	*	.095		.070		.062
Agreeableness	.118		.099		.080		.065
Neuroticism	.025		.082		-.029		.054
Gender	-.212	**	.080		.158	**	.052
N	873				873		
R^2	.02	**			.02	**	

Note: *p < .05, **p< .01, ***p< .001, (one-tailed tests)

TABLE 10: Personality and Gender as Predictors, Unstandardized Regression Coefficients

	Perceiver effect variance in Market Pricing				Partner effect variance in Market Pricing		
	B		S.E.		B		S.E.
Intercept	-1.416	*	.663		-.325		.254
Openness	.201	*	.100		.004		.038
Conscientiousness	.116		.120		.101	*	.046
Extraversion	.098		.108		-.020		.041
Agreeableness	-.122		.113		-.008		.043
Neuroticism	.297	**	.093		.040		.036
Gender	-.263	**	.091		-.039		.035
N	873				873		
R^2	.03	***			.01		

Note: *p < .05, **p< .01, ***p< .001, (one-tailed tests)

TABLE 11: Personality and Gender as Predictors, Unstandardized Regression Coefficients

	Perceiver effect variance in Authority Ranking				Partner effect variance in Authority Ranking		
	B		S.E.		B		S.E.
Intercept	-2.347	***	.602		-.768	**	.312
Openness	.030		.091		.017		.047
Conscientiousness	.290	**	.109		.154	**	.057
Extraversion	.182	*	.098		-.040		.051
Agreeableness	.096		.102		.051		.053
Neuroticism	.208	**	.085		.022		.044
Gender	-.245	**	.082		.058		.043
N	873				873		
R^2	.03	***			.02	**	

Note: *p < .05, **p< .01, ***p< .001, (one-tailed tests)

TABLE 12: Personality as Predictors of Relational Dyadic Communal Sharing; Polynomial Regressions

	Agreeableness	Extraversion
	B (se)	*B (se)*
INTERCEPT	0.06(.03)*	0.18(.05)**
$Personality_x$	-0.14(.06)*	-0.25(.09)**
$Personality_y$	-0.14(.06)*	-0.24(.09)**
$(Personality_x)*(Personality_y)$	0.384(.09)**	0.367(.07)**
$Personality_x^2$	-0.03(.06)	-0.010(.05)
$Personality_y^2$	-0.03(.06)	-0.02(.05)
N	3409	3409
R^2	0.01**	0.01**

Note: *p < .05; **p< .01 (two-tailed tests)

Finally, I assessed how dyad agreeableness (H9c) and extraversion (H10d) are linked to relational effects in Communal Sharing (Table 12). In polynomial regression analysis, both dimensions of personality emerged as relational CS variance predictors in dyads. Subsequent Response Surface Analysis further unpacked the exact nature of the linkage (Figure 7 and 8) – revealing a similar pattern for both extraversion and agreeableness. In each case, I find evidence for similarity matching between dyad partners and CS relational effects. The positive link to relational effects is especially pronounced among partners who are at the extremes of (dis)agreeable and intro/extraversion – with dyads very low in extraversion producing especially strong CS relational effects. Such findings are consistent with the notion of similarity leading to special, close relationships emerging among individuals (e.g. Byrne, 1971).

FIGURE 7: Communal Sharing relational effects as Predicted by Perceiver - Partner Extraversion

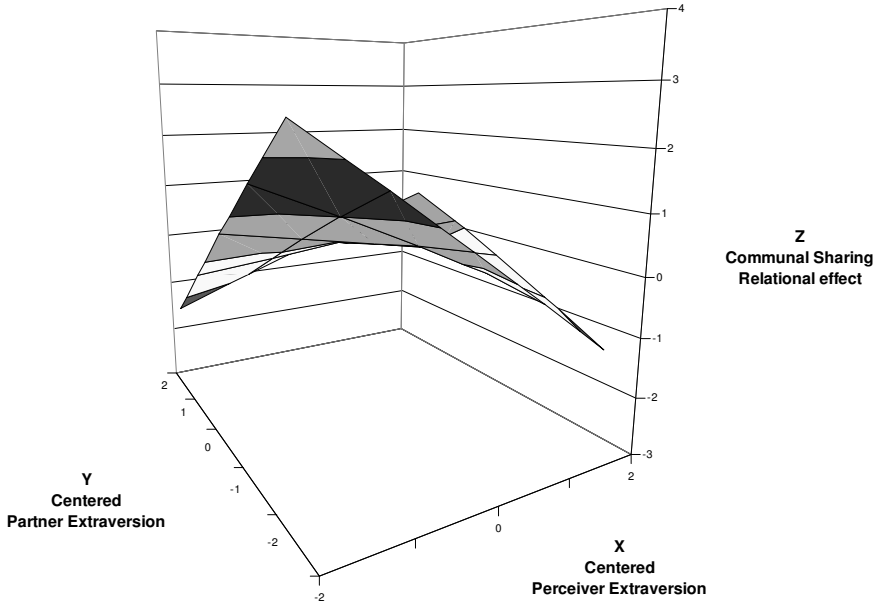
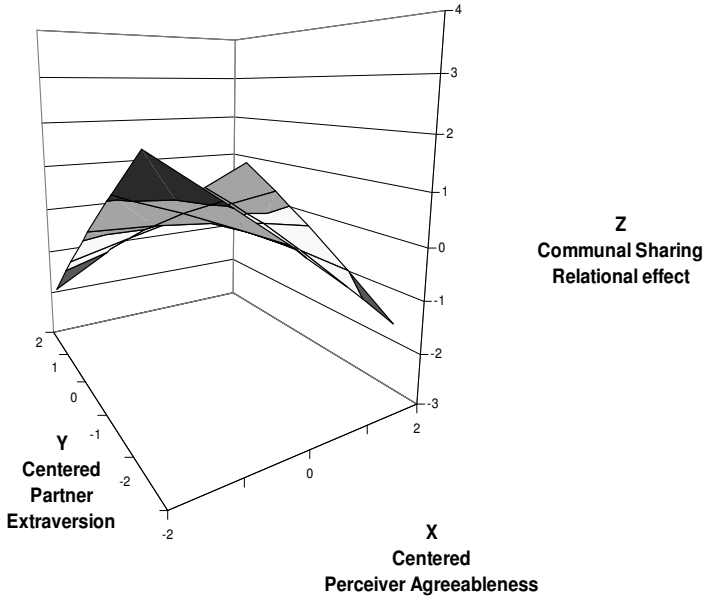


FIGURE 8: Communal Sharing relational effects as Predicted by Perceiver - Partner Agreeableness



DISCUSSION

The research presented here provides a great deal of insight into interpersonal relationships. Foremost, it suggests that a large portion of variance in relationship perceptions is in the eye of the beholder – a function of an individual's general tendency to perceive certain Relational Models across their coworkers. These findings support the notion that there are substantial regularities in relationship perceptions (Baldwin, 1992). Thus, this research underscores the key role of individuals in driving their own relationship perceptions – particularly in the case of Market Pricing relationships which are almost entirely comprised of perceiver effects.

For both practitioners and researchers, partner and relational effects in relationship perceptions are particularly interesting. The results reveal that individuals are, to some extent, able to evoke particular Relational Models across their partners, and as such, studying the antecedent qualities and interpersonal dynamics that evoke Relational Model perceptions in others presents an opportunity to understand how relational styles may be elicited. While in this study the role of partner effects was significant but small, there may be potential to increase their role by investigating groups with a longer lifecycle, and manipulating the factors that are involved in evoking relationship styles from others.

The identification of relational effects in this research suggests that relationship perceptions go beyond schemas. These effects show that relationships are also emergent, and as such, understanding how qualities of the dyad, such as the personality findings presented here, may contribute to these emergent effects can also improve my understanding of when and why particular relationships emerge between certain individuals.

Reciprocity in relationship perceptions was also considered here – revealing no general link between the tendency to perceive and evoke the four Relational Models (generalized reciprocity). This suggests that there might be large discrepancies in relational perceptions between actors. To the extent that shared Relational Models are the basis for effective interpersonal coordination (i.e. Boer et al., 2011), the degree to which

discrepancies have interpersonal and individual consequences may be another fruitful avenue for research.

In clarifying the unique sources of variance in Relational Model perceptions, the research presented here provides a more complete picture of where relational perceptions originate from. Further, I highlight the role of personality and gender in RM preference and variance in perceptions – providing a basis for linking RMs to the personality literature, and hopefully provoking future scholarship into how individual and dyadic characteristics are related to the sources of relationships. Below, I consider some of the practical implications for the findings presented here.

Implications for practice

At a very basic level, understanding the relational preferences people hold and how these might be met through structuring interdependencies and adapting the style of interpersonal work to fit these preferences may create higher levels of employee satisfaction, performance, and embeddedness, among many other potential consequences. Attention to Relational Models among coworkers may allow for more effective matching of employees to teams, mentors, and supervisors.

The strong role of perceiver effects in relational perceptions suggests that organizations interested in promoting particular Relational Models among coworkers may be more successful in this endeavor by identifying individuals who tend to perceive the desired relational style in their relationships with others. As such, an organization that wants Communal Sharing relational norms among employees would be well served to identify those individuals who tend to perceive their relationships in CS terms, and thus play by CS relational rules. Further, the research presented here suggests that CS and EM relationships may also be generally evoked, and hence promoted, by individuals who prefer these modes of relating. Beyond identifying these individuals through directly assessing their patterns of relationship perceptions with others, the research presented here also provides practitioners some clues as to who in their organization will tend to have particular relational perceptions – with implications for employee selection.

Limitations

The research presented here offers a number of important initial insights as to the origins of relational perceptions, and their antecedents. However, this research offers a

snap shot of relationships within a particular type of sample, at a certain point in the relationship lifecycle. Future work could address aspects of coworker relationships that are not reflected in this research. For example, the research here was conducted on a sample of teams with a life-span of 10 weeks. Thus, it is possible that some aspects of relationship perceptions take more time to unfold (e.g. partner effects, generalized reciprocity). In addition, relationships may evolve at different speeds depending on the actors' characteristics, and/or different RMs may emerge over longer periods of time. Thus, longitudinal research designs might reveal interesting information about the influence of time on the four relational models and how they unfold. Further, generalizability may be limited by the fact that this study was done with a student sample. In addition, the reports of RMs with particular others was restricted to a single item measure. Ideally, more items would have allowed for parcelling out error variance from the other SRM effects presented here, allowing for greater precision in the results.

Future directions

The research presented here suggests a number of interesting avenues for future scholarship. Future research might assess the relative impact of similarity in discrepancies in the three sources of RM perception variance and their consequences for individuals, networks, and groups. For example, how do RM perceiver effect discrepancies between partners (e.g. the consequences of a strongly CS and a strongly MP oriented partner) relate to individual and collective performance, information flow among coworkers, and turnover? Are some RM discrepancies more impactful for outcomes than others (e.g. AR-EM versus MP-CS)? Do "compromise" RMs emerge, or do some models tend to dominate? Research into similarities and discrepancies in partners' relational tendencies may provide a particularly interesting window into why some relationships among coworkers are especially (in)effective.

A better understanding of the precursors to relational variance and special, relational reciprocity may also provide an avenue for understanding how shared perceptions emerge, and what provokes emergent relational perceptions. At higher levels of analysis, understanding if, why, where, and how group level relational model norms emerge, and their consequences, represents a particularly interesting avenue for future research.

Chapter 5: Summary & General Discussion

A considerable body of research is emerging which suggests that relationships among coworkers are important in a number of areas of management scholarship. Relationships among colleagues have now been shown to drive patterns of advice seeking and helping behaviors (Casciaro & Lobo, 2008), work and life satisfaction (Smith, Kendall, & Hulin, 1969; Weiss, Dawis, England, & Lofquist, 1967), team, organizational, and occupational commitment (Griffeth, Hom, Gaertner. 2001; Lee, Carswell, & Allen, 2000; Shore et al., 2004), motivation (Dutton, 2003; Dutton & Heaphy, 2003; Grant, 2007), along with work attitudes and effectiveness (Chiaburu & Harrison, 2008). Scholars studying dyads have suggested that "fit" between coworkers can be a determinant of contextual performance (Antonioni & Park, 2001), selection (Graves, & Powell, 1995), promotion (Ferris & Judge, 1991; Schaubroeck & Lam, 2002), and performance ratings (Tsui & O'Reilly, 1989; Turban & Jones, 1988). Methodologies such as social network analysis have also played a role in underscoring the critical importance of dyadic links for organizational phenomena.

However, research on dyadic relationships among coworkers in management scholarship is still in its early days, and has been critiqued for an absence of strong theoretical work and severe methodological inadequacies (Edwards, 2008; Judge & Ferris, 1992; Kristof-Brown et al., 2005; Kristof-Brown & Guay, 2011; Muchinsky & Moynihan, 1987). Given their importance for a variety of individual and organizational outcomes, this dissertation attempts to advance our understanding of coworker relationships in a number of ways.

Summary of Main Findings

The second chapter of this dissertation puts forth a new theory of person-person fit. It suggests that warmth and competence constitute two key employee needs that may be fulfilled to various degrees by one's coworkers, with consequences for the degree of coworker satisfaction experienced by an employee toward a particular coworker. In developing this theory, antecedent of both one's need for warmth and competence, as well as one's perceptions of warmth and competence from others in the work environment are considered. Specifically, the degree of warmth desired by an individual is suggested to be a consequence of the focal individual's desire and ability to reciprocate, the relative

availability of warmth from others, their adult attachment style, and the complementarity of competencies between the individual and a particular coworker. Perceptions of warmth from a coworker are suggested to reflect the degree of warmth stereotypically associated with a coworker's demographic group, and their adult attachment style. When an employee's degree of need for interpersonal warmth is met by a coworker, experienced satisfaction attributable to that particular coworker is suggested to be high, with the importance of warmth fit for the focal actor moderating the degree to which warmth contributes to experienced satisfaction. The importance of warmth fit is suggested to be, to some extent, a consequence of one's cooperative social value orientation. With regard to competence, desired degree of competence in a coworker is suggested to follow from the focal actor's competitive social value orientation (negative relationship), personal development orientation, the negative (negative relationship) and positive interdependence between the focal actor and their colleague, and the coworker's degree of warmth. Competence stereotypes regarding a coworker's sociodemographic group are suggested to influence perceptions of a coworker's competence. When employee perceives their need for competence as being fulfilled by a colleague, high levels of satisfaction with that particular coworker are suggested to follow. However, once again the degree to which competence fit links to coworker satisfaction is suggested to be moderated by the importance of competence fit to the focal actor, which is argued to reflect the employee's competitive social value orientation.

From a theory of two key dimensions of fit argued to contribute to coworker satisfaction, I turn to the construct of coworker satisfaction itself in chapter three. Coworker satisfaction (CWS) is a frequently measured variable in organizational behavior research, but one that has yet to receive substantial conceptual and methodological development. In considering coworker satisfaction as the affective consequence of interpersonal perception, the second chapter of my dissertation considers the variety of sources from which the experience of coworker satisfaction can derive, namely: the general tendency of an individual to experience satisfaction with others (perceiver CWS), the tendency of the partner to generally evoke satisfaction from others (partner CWS), as well as satisfaction that is specific to a particular coworker absent these two general tendencies (relational CWS). To unpack these component sources of coworker satisfaction,

Social Relations Modelling (Kenny, 1994) is used to assess each of these factors in an empirical study of 3,412 round robin ratings of coworker satisfaction from 876 undergraduate business students nested in 178 case project teams. Each source of coworker satisfaction was supported, with perceiver, partner, and relational CWS all revealed from this analysis - with relational effects emerging as an especially strong component, perceiver effects also playing a major role, and partner effects to a lesser extent accounting for variance in the overall experience of satisfaction with coworkers. Such findings have implications for our understanding of coworker satisfaction as a perceived, evoked, and relationally emergent set of phenomena. The relative size of each of these sources of variance in coworker satisfaction shows how much variance in each of these phenomenon is waiting to be explained in future research, and can serve as a guide in the kinds of research into coworker satisfaction that are likely to have to have the greatest impact for practitioners (i.e. research into the antecedents of perceiver and relational CWS). These findings suggest that the goal of maximizing coworker satisfaction may in part be achievable by considering the stable characteristics of individuals that lead them to experience generally high satisfaction with others, evoke satisfaction from others, and in particular, how interdependencies among particular coworkers may contribute to coworker satisfaction.

Beyond confirming these three components of CWS variance, the research presented in this chapter also considers the factors likely to predict the general tendency to experience satisfaction with others (perceiver CWS), the general tendency to evoke coworker satisfaction from others (partner CWS), and the antecedents of coworker satisfaction specific to a relationship with a particular other (relational CWS). As hypothesized, agreeableness is found to predict perceiver CWS, and agreeableness and competence both predict one's general partner CWS. To assess relational predictors. To predict relationship specific CWS, the factors of both partners are likely to be relevant. Building on the insights of Edwards (Edwards & Parry, 1993; Edwards, 1994; 2001; 2002), polynomial regression and Response Surface Analysis are employed to test for a predicted positive effect of interpersonal similarity in agreeableness and extroversion as predictors of relational CWS. This approach provides a strong test of the hypothesized relationships as each partner's relative degree of each characteristic is taken into account to

assure that relationship to relational coworker satisfaction reflects the absolute difference effects at all levels of the characteristic (whether partners are both high or low on the predictor variables, and a potential effect of one coworker being relatively higher or lower on the characteristic than the other). This analysis revealed a significant congruence effect of agreeableness on coworker satisfaction, and a near significant effect of extroversion similarity. RSA also revealed intriguing insights regarding the component effects of coworkers' agreeableness and extroversion. In particular, significant effect emerged of strong, non-linear effect of matching at very low levels of agreeableness and extroversion (respectively). In sum, this research into the antecedents of each kind of CWS identify characteristics that can be used to identify who is likely to experience, provoke, manifest coworker satisfaction through their fit with particular others.

The fourth chapter in this dissertation delves further into the relationships between coworkers with regard to the four relationship types advanced by Relational Models Theory (RMT). As reviewed in this chapter, Fiske has presented evidence for four fundamental relationship types – communal sharing, authority ranking, equality matching, and market pricing (Fiske, 1992, 1993, 1995; Fiske & Haslam, 2005; Fiske, Haslam, & Fiske, 1991; Haslam, 1994a, 1994b; Haslam & Fiske, 1992, 1999). I hypothesize the general tendencies of individuals to experience and provoke certain relational models, and variation in relationship type that is specific to the particular relationship with a certain coworker absent these general tendencies. Further, I consider the issue of reciprocity in relationship type perceptions between dyad partners – that general tendencies to perceive certain relational models would be linked to a general tendency to evoke perceptions of that relationship type from others. I also consider the evidence for reciprocity in one's partner-specific relationship perceptions(relational effects), being matched by the other's partner-specific relationship perceptions with that partner.

To test these hypotheses, the Social Relations Modelling approach is employed to unpack general tendencies to perceive particular kinds of relationships with coworkers, to evoke particular kinds of relational models from others, and the degree to which relationship type is unique to the interaction of particular individuals absent these general effects. Perceiver effects are found for each relationship type – suggesting that individuals have a tendency to perceive a certain relationship type generally, across their relationships

with others. Partner effects, an individual's general tendency to evoke particular types of relationship perceptions from their partners, were also found for each relationship type except for market pricing relationships. Social Relations Modeling also confirmed relationship specific variance for perceptions of all four relational models. This analysis also revealed the relative size of perceiver, partner, and relationship specific variance for each of the relational models. In each case, perceiver effects and relationship specific variance combined account for the overwhelming majority of variance in relationship perceptions (i.e. between 90 and 99% of variance in relationship perceptions) – with partner effects playing a statistically significant, but far more modest role. Interestingly, there was not support for "generalized reciprocity" for any of the four relational models – i.e. that a general tendency to perceive certain relational models would be linked to a general tendency to evoke those models from one's partners generally. However, reciprocity in relational effects – relational model variance specific to a particular partner relating to that partner's relationship perceptions with the other – was supported for all but authority ranking relationships.

Beyond unpacking these sources of variance in relational models, I then consider how espoused relational model preferences, personality characteristics related to social tendencies (i.e. agreeableness and extroversion), as well as demographics (i.e. gender), are linked to the general tendencies to perceive and evoke certain relational models. As hypothesized, agreeableness and extroversion predict a preference for communal sharing relationships, gender links to market pricing relationship preference, agreeableness is related to a preference for equality matching relationships, while authority ranking relationships are linked to gender as well as extroversion. In turn, relational model preference emerged as a predictor of perceiver variance for each of the relational models. The link between one's relationship type preference and partner effects was supported for communal sharing and equality matching relational models.

With regard to perceiver and partner variance in relational models, agreeableness was related to equality matching partner effects, extroversion is related to communal sharing perceiver effects, and women tend to generally evoke communal sharing relational models from their partners (i.e. partner effect). Meanwhile, men appear more likely to

perceive their relationships as market pricing, while men and extroverts are more likely to perceive an authority ranking relational model across their relationships.

In addition to hypothesizing and testing agreeableness and extroversion as drivers of perceiver and partner variance in relationship perceptions, I also consider how similarity in these characteristics between coworkers link to the relationship-specific variance in communal sharing perceptions. To test this, I employee polynomial regression and response surface analysis to test and model the effects of various elements of dyad agreeableness and extroversion, and discrepancies in these characteristics between coworkers. Polynomial regression supports a link between both agreeableness similarity and extroversion similarity in relationship specific variance in communal sharing relational perceptions. Unpacking these effects with Response Surface Analysis, there is an especially strong link at the extremes of similarly low agreeableness coworkers and relationship specific communal sharing, and similarly high agreeableness coworkers and relationship specific communal sharing. A similar pattern is observed for similarly high and low extroversion pairs and relationship specific communal sharing.

Conclusion

In sum, the research presented here offers a new picture of what drives satisfying relationships among coworkers, sources of variance in coworker satisfaction and their antecedents, and the determinants of different kinds of relationships among colleagues. Chapters two, three, and four highlight the role of the individual in coworker relationships and their consequences. The degree to which we need and value warmth and competence from our colleagues, the degree to which we experience satisfaction with others, our preferences for different kinds of relationships, and the kinds of relationships we see ourselves in with others are driven, at least in part, by our own individual characteristics. The theorizing and empirical validation of the antecedents of satisfaction, relationship preference, and relational model emergence in this dissertation highlights the importance of understanding the substantial role of the individual in their reaction to the interpersonal environment. From a practitioner standpoint, this also highlights the importance of understanding how individual characteristics determine seemingly interpersonal, emergent phenomena. In particular an employee's satisfaction and relationships with their coworkers are to some extent a reflection of that individual.

The characteristics of the individual also play a role in determining the emergent consequences of relationships – for both relationship-specific coworker satisfaction and variance in the relationship type specific to a particular colleague. In particular, the work presented here suggests that arranging interdependencies between certain employees can promote relationship—specific satisfaction and the emergence of particular relationship styles. Thus, the matching of coworkers on certain personality dimensions offers another application of the personality information organizations commonly collect from employees. Such selection and composition efforts can allow satisfaction and relationships characterised by equality and closeness to flourish.

The research presented here only begins to predict sources of variance in perceiver and partner effects, as well as relational effects in coworker satisfaction and relationship types. However, in parcelling out the sources of variance in coworker satisfaction and relationship perceptions, this research is suggestive of how much variance there is to be explained in these phenomena in future study of antecedents of perceiver, partner, and relational effects. Further, while much of this research has focused on stable individual characteristics such as personality and gender, there are also opportunities to explore how contextual factors – for example, relational events – influence how relationships and satisfaction with particular coworkers emerge. It is hoped that future research will build on the conceptualizations and insights presented here to provide a more in depth understanding of the nature of coworker relationships and their consequences.

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Dutch Summary / Samenvatting

Een aanzienlijke hoeveelheid onderzoek, dat suggereert dat relaties tussen collega's belangrijk zijn in een veelheid van domeinen in management wetenschap, komt momenteel tot stand. Het is nu aangetoond dat relaties tussen collega's de drijfveer vormen voor patronen van advies zoeken en hulp (gedrag Casciaro & Lobo, 2008), tevredenheid met werk en leven (Smith, Kendall, & Hulin, 1969; Weiss, Dawis, England, & Lofquist, 1967), betrokkenheid bij het team, de organisatie en het beroep (Griffeth, Hom, Gaertner. 2001; Lee, Carswell, & Allen, 2000; Shore et al., 2004), motivatie (Dutton, 2003; Dutton & Heaphy, 2003; Grant, 2007), evenals werkhouding en effectiviteit (Chiaburu & Harrison, 2008). Wetenschappers die duo's onderzochten hebben gesuggereerd dat de mate waarin collega's bij elkaar passen ("fit") een determinant kan zijn van contextuele prestatie (Antonioni & Park, 2001), selectie (Graves, & Powell, 1995), promotie (Ferris & Judge, 1991; Schaubroeck & Lam, 2002), en prestatie scores (Tsui & O'Reilly, 1989; Turban & Jones, 1988). Methoden als sociale netwerk analyse (social network analysis) hebben ook een rol gespeeld in het benadrukken van het belang van dyadische relaties voor fenomenen in organisaties.

Onderzoek naar dyadische relaties tussen collega' is in de management wetenschap nog zeer nieuw, en is sterk bekritiseerd voor het gebrek aan sterk theoretisch werk en ernstige methodologische tekortkomingen (Edwards, 2008; Judge & Ferris, 1992; Kristof-Brown et al., 2005; Kristof-Brown & Guay, 2011; Muchinsky & Moynihan, 1987). Gezien het belang van relaties tussen collega's voor vele uitkomsten op individueel en organisatie niveau, richt dit proefschrift zich op het ontwikkelen van ons begrip van relaties tussen collega's door het behandelen van twee vragen:

Wat zijn de redenen voor de ervaring van tevredenheid met de relatie met een collega?

Wat bepaalt het type relatie dat zich ontwikkelt tussen collega's?

Overzicht van het proefschrift

Om te beginnen met het behandelen van de eerste vraag biedt het tweede hoofdstuk in dit proefschrift een nieuwe theorie over Persoon-Persoon bijpassendheid – deze theorie suggereert dat (respectievelijk) warmte en competentie interpersoonlijke hulpbronnen vormen en dat het ontvangen van deze hulpbronnen van collega's in de

gewenste hoeveelheid bijpassendheid bijdraagt aan tevredenheid met de collega. Recent is een consensus begonnen te ontstaan dat warmte en competentie de belangrijkste factoren in onze percepties van anderen zijn (Asch, 1946; Bakan, 1966, Cuddy, Fiske, and Glick, 2008; Cuddy, Glick, & Beninger, 2011; Deci & Ryan, 2000; Fiske, Xu, Cuddy, & Glick, 1999; Fiske, Cuddy, Glick, Xu, 2002; Fiske, Cuddy, & Glick, 2007; Rosenberg, Nelson, & Vivekananthan, 1968; Wojciszke, Bazinska, & Jaworski, 1998). De introductie van de implicaties van dit onderzoek in de literatuur over relaties tussen collega's staat nog aan zijn begin (Cuddy, Glick, & Beninger, 2011). In navolging van Edwards' (2008) richtlijnen voor sterke theorie, geeft dit hoofdstuk een overzicht van de voorwaarden voor de hoeveelheid warmte en competentie werknemers verlangen van hun collega's, de variabelen die de waarneming van deze hulpbronnen in de omgeving beinvloeden, en moderators van de relatie tussen de bijpassendheid van respectievelijk warmte en competentie en algemene tevredenheid met de relatie met de collega.

Het derde hoofdstuk onderzoekt tevredenheid met de collega op zich. In de literatuur waarin het wordt bestudeerd, wordt tevredenheid gedefinieerd als een affectief fenomeen – een gevolg van (en contrast met bijpassendheid) – het bewustzijn van de mate van discrepantie op verschillende dimensies van hulpbronnen (Edwards & Shipp, 2007). Tevredenheid is gebruikt om te verwijzen naar de spanning die ontstaat door niet vervulde behoeften (Schaffer, 1953), of een aangename affectieve reactie proportioneel aan de mate van overeenkomst tussen datgene wat de omgeving biedt en de doelen, verwachtingen, waarden of behoeften van het individu (Cranny, Smith, & Stone, 1992; Dawis & Lofquist, 1984; Lawler, 1973; Locke, 1969; Katzell, 1964; zie Edward's 2008 review van de P-E fit literatuur). Hoewel tevredenheid met collega's traditioneel onderzocht wordt als een belangrijk gevolg of oorzaak van belangrijke processen in organisaties, heeft het construct zelf nog erg weinig aandacht gekregen en is het onderontwikkeld (Bowling, Hendricks, & Wagner, 2008; Spector 1997), ook is het nog niet beinvloed door methodologische ontwikkelingen op het gebied van dyadische fenomenen (e.g. Kenny, 1994). Specifiek beargumenteer ik dat de tevredenheid met een collega die een werknemer kan ervaren, uit drie verschillende bronnen kan komen: de algemene neiging van de waarnemer om tevredenheid met collega's te ervaring, de algemene neiging van de collega om tevredenheid te veroorzaken bij anderen, en de reactie van de waarnemer die specifiek

voor de desbetreffende college is buiten de algemene neiging om tevredenheid te ervaren of te ontlokken bij collega's in het algemeen. Voortbouwend op de methoden van Kenny (1994) en Edwards (Edwards & Parry, 1993; Edwards, 1994; 2001; 2002), onderzoekt hoofdstuk drie deze bronnen van variantie op een empirische manier, en test persoonlijkheidsfactoren die de oorsprong vormen voor elk van deze drie dimensies van tevredenheid met collega's.

Het vierde hoofdstuk in dit proefschrift begint aan het beantwoorden van vraag twee: wat bepaalt het type relatie dat tussen collega's ontstaat? Voortbouwend op Fiske's onderzoek, wat vier fundamentele vormen van interpersoonlijke relaties onderscheidt (Fiske, 1992, 1993, 1995; Fiske & Haslam, 2005; Fiske, Haslam, & Fiske, 1991; Haslam, 1994a, 1994b; Haslam & Fiske, 1992, 1999), en benadrukkend dat relaties waargenomen fenomenen zijn, beschouw ik de rol van individuele neigingen om bepaalde relationele modellen te prefereren, waar te nemen en tot stand te brengen, evenals de partner-specifieke aspecten voor het onstaan van een type relatie. De algemene neiging om bepaalde typen relaties waar te nemen over alle relaties die men heeft, de neiging van individuen om in het algemeen bepaalde typen relaties tot uiting te brengen in anderen, en variantie in de ontwikkeling van relaties die partner-specifiek zijn worden betheoretiseerd en empirisch getest. Reciprociteit tussen de percepties van de relatie van de persoon en de partner worden ook onderzocht, in het bijzonde een overeenkomst tussen algemeen waargenomen en algemeen tot stand gebrachte relatie stijlen, en de eigen relatie specifieke waarnemingen van de relatie en de relatie specifieke relatie waarnemingen van de partner. Bovendien onderzoek ik de oorsprong van voorkeuren voor relatie stijlen, waarnemer, partner en relationele variantie in relatie perceptie. In het bijzonder betheoretiseer ik de rol van voorkeur voor een relationeel model, de persoonlijkheidskenmerken agreeableness en extroversie, en het effect van geslacht van de waarnemer en de partner, evenals de rol van de relatieve mate van (respectievelijk) agreeableness en extroversie van de dyadische partners voor het voorspellen van relationele variantie in waarneming van gezamenlijk delen (communal sharing) als relationeel model. In het kort beschouwt dit hoofdstuk de bronnen van variantie in de waarneming van typen relaties en de oorsprong van de verschillende aspecten van variantie in de relatie. In het laatste hoofdstuk presenteer ik een

algemene discussie, een samenvatting van de belangrijkste bevindingen en een algemene conclusie.

About the Author

Eliza Byington's research interests include individual differences, team dynamics, coworker relationships and satisfaction, and what polynomial regression, machine learning, and Social Relations Modeling can reveal about the relationships between them. Her research on the IQ – job performance relationship and dysfunctional team members has appeared in Volume 30 and Volume 27 of *Research in Organizational Behavior*. Her work has also been presented at the annual meetings of the *Academy of Management* and included in the best paper proceedings. Currently, Eliza is a Post-doctoral Research Fellow in the Australian School of Business at the University of New South Wales in Sydney.

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EXPLORING COWORKER RELATIONSHIPS
ANTECEDENTS AND DIMENSIONS OF INTERPERSONAL FIT, COWORKER SATISFACTION, AND RELATIONAL MODELS

Management scholarship has revealed the myriad ways in which relationships between coworkers impact individual, team, and organizational phenomena. However, our scientific understanding of coworker relationships and what makes for satisfying connections with colleagues is still in its early days.

This dissertation helps advance our understanding by proposing new drivers of coworker satisfaction, unpacking the nature of coworker satisfaction itself, and examining the sources and antecedents of different types of coworker relationships. Specifically, this work suggests that fit between the desired degree of warmth and competence, and their provision by a coworker will result in coworker satisfaction. The factors that influence an individual's desired degree of warmth and competence are considered, along with factors that influence perceptions of these resources in the interpersonal environment. Further, I empirically examine coworker satisfaction as a phenomenon that a) individuals have a general tendency to experience across coworkers, b) individuals have a general tendency to evoke from their partners, and c) as a phenomenon that is relationally emergent – a unique response to a particular coworker. Beyond empirically substantiating these aspects of coworker satisfaction, personality predictors of each aspect are also identified. Finally, this dissertation examines the types of relationships that may exist between colleagues, and considers general tendencies to perceive and provoke relationship types across partners, as well as the emergence of relationship types that are partner-specific. Personality and gender predictors of general relationship tendencies and emergent relationship styles are also presented.

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