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Dyadic meta-accuracy in leader-member exchanges: an examination of antecedents and relational outcomes

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DYADIC META-ACCURACY IN LEADER-MEMBER EXCHANGES:
AN EXAMINATION OF ANTECEDENTS AND RELATIONAL OUTCOMES

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The Department of Psychology

by

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ABSTRACT

Work organizations are inherently social entities, dependent upon the social interactions between supervisors and subordinates. This study examined the role of interpersonal processes within organizational settings, focusing upon subordinates' accuracy in judging their supervisors' impressions of the subordinates' personality. This phenomenon, dyadic meta-accuracy, is examined within exchange relationships between supervisors and subordinates, drawing upon Leader Member Exchange (LMX) theory and the metaperception literature. A theoretical framework proposed potential antecedents of subordinate meta-accuracy, including: communication frequency, physical proximity, psychological closeness, and trait visibility. In addition, subordinate meta-accuracy was proposed as a determinant of the relational quality between subordinate and supervisor and the congruence between their perceptions of this quality. The study utilized a snowball sampling technique to collect survey data from 72 supervisor-subordinate dyads. MANCOVA and ANOVA were utilized in the testing of hypotheses. Results supported physical proximity and trait visibility as predictors of meta-accuracy. Meta-accuracy was also significantly associated with LMX quality and congruence in their perceptions of relational quality. Differential results were found across the five personality factors (extraversion, agreeableness, conscientiousness, openness, emotional stability), and conscientiousness held the greatest importance relative to other factors.

INTRODUCTION

On a daily basis, individuals interact with and interpret their environments and the cues people elicit within those social contexts. Indeed, this is not a new concept within research in the social and behavioral sciences. Robert Woodworth's (1931) conceptualization of the stimulus-organism-response (S-O-R) mechanism introduced the notion that the individual is wholly involved in interacting with and interpreting stimuli within his or her environment. Interactions within social environments are important to the extent that they influence attitudes, behaviors, and emotions. In its broadest form, this research tract is referred to as social cognition, which refers to the processes by which "people think about people and how they think they think about people" (Fiske & Taylor, 1991, p. 1). As evidenced by the latter component of this definition, social cognition extends from the concept of metacognition (i.e., thinking about thinking), which refers to an individual's ability to judge how well s/he is performing, and the accuracy of such judgments (Kruger & Dunning, 1999). In short, people are aware of their surrounding social environment and make judgments about others based on interactions and observations of others (Bem, 1967; Fiske & Taylor, 1991).

The proposed research focuses on individuals' beliefs about how they are viewed by others across the Big 5 personality traits (Costa & McCrae, 1992; emotional stability, extraversion, openness, conscientiousness, agreeableness). Specifically, the proposed research addresses the degree to which individuals are accurate in these beliefs, the factors that influence accuracy, and the extent to which such accuracy is associated with positive relational outcomes. Does one accurately perceive how s/he is viewed by people in general and across different contexts, such as in interactions with friends or with coworkers? An important factor that encapsulates and extends beyond these questions are the actual impressions held by others, and

whether some people are more or less accurate in estimating these impressions. The proposed research seeks to answer these questions by examining how accurately employees perceive their supervisors' impressions, and to understand the extent to which the quality of the relationship between them is affected by accuracy. In doing so, the present research project seeks to establish the importance of judgment accuracy by linking it to important work-related outcomes within the supervisor-subordinate exchange, and to better understand the factors that influence the development of accurate beliefs.

Organizations are inherently a system of social identities with social influence serving as a critical variable for organizational success (Hekman, Steensma, Bigley, & Hereford, 2009; Katz & Kahn, 1978). Theoretical conceptualizations posit the organization as a political environment with individuals interacting with and influencing one another. Such frameworks have emphasized the importance of social effectiveness among its members (Ferris, Treadway, Perrewe, Brouer, Douglas, & Lux, 2007). To become and remain successful organizational members, employees must utilize social cognition to perform successfully and develop effective working relationships (Ferris et al., 2007; Pfeffer, 1992). Thus, the proposed research seeks to extend past empirical work on social cognition within organizational settings by examining the role of subordinate metaperceptions within supervisor-subordinate dyads in workplace environments. Supervisors are characterized by their management roles that center on performing activities (e.g., decision making, leading) directed toward achieving organizational effectiveness and utilizing subordinates to complete work (Griffin, 2002; Williams, 2000). Subordinates are followers within these relationships, characterized by the carrying out of tasks directed by supervisors.

The following sections review related literature and provide rationale for the proposed research that extends the existing literature in theoretically and practically relevant ways. The paper first defines metaperceptions and its focus on dyadic metaperceptions. The importance of studying the supervisor-subordinate relationship is also outlined. The metaperceptions and Leader-Member (LMX) literatures are then reviewed. These literatures provide a foundation and framework for the hypotheses that are tested using a dyadic methodology and analytic strategy with literature precedence but that is new to a field-based research context.

REVIEW OF LITERATURE

Definitions of Metaperceptions and Meta-Accuracy

Metaperceptions (Laing, Phillipson, & Lee, 1966) refer to the beliefs¹ an individual holds regarding the impressions he or she makes upon others. Individuals' metaperceptions may differ in the degree to which they are congruent with others' impressions (Kenny & DePaulo, 1993). This individual difference is represented by meta-accuracy. Meta-accuracy is distinct from self-other agreement in that self-perceptions consist of internal attributions of one's behavior, characteristics, or relational characteristics (Funder & Colvin, 1988). Behaviors include such actions as leading or helping. Individual characteristics include such variables as personality and intelligence, whereas relational characteristics refer to such factors as liking, friendship, and humor (Elfenbein et al., 2009). Metaperceptions, in contrast to self-perceptions, are directed outwardly toward others. In other words, self-perceptions concern how one views him or herself, and metaperceptions concern how one believes others view him or her. For example, individuals may make judgments concerning the degree to which others like them, view them as conscientious, or see them as a good team player. These judgments do not necessarily reflect what these individuals think of themselves, as the individual may see himself or herself as being conscientious but believe others view him or her differently.

Who is defined as the "other" within meta-accuracy has varied within research on metaperceptions (e.g., Carlson & Furr, 2009; Kenny & DePaulo, 1993; Malloy, Albright, & Scarpati, 2007). Indeed, researchers have made distinctions between generalized, differential, and dyadic meta-accuracy (Carlson & Furr, 2009). Generalized metaperceptions and accuracy focus on impressions from a "generalized" other. These metaperceptions refer to the beliefs an

¹ The terms "beliefs" and "perceptions" are used interchangeably throughout the paper in reference to metaperceptions.

individual holds regarding his or her impressions on others, in general. Differential metaperceptions and accuracy focus on impressions from a “specific” social group (e.g., family, college peers, coworkers). Dyadic metaperceptions and accuracy concern impressions from a specific individual. Dyadic meta-accuracy refers to the congruence of an individual’s metaperceptions with another individual’s impressions. Within the workplace, a particular dyadic relationship of interest involves the supervisor-subordinate relationship. This research focuses upon dyadic meta-accuracy within supervisor-subordinate relationships in the workplace. The social nature of organizations, along with the prevalence of supervisor-subordinate relationships within these settings, serve as the primary points of rationale for the focus and scope of the present research.

Specifically, the proposed research aims to assess the degree to which meta-accuracy in these relationships is associated with the quality of these dyadic relationships. Ultimately, this conceptualization of meta-accuracy allows for the assessment of both dyadic members’ meta-accuracy by collecting both members’ metaperceptions and their corresponding impressions of one another. Though supervisor-subordinate relational quality is inherently experienced by both members of the dyad, it is posited that this relationship is more important to the subordinate than the supervisor. Asymmetry of influence exists within a dyad when one member holds greater influence over the other, including access to promotions, pay raises, and social capital (Tedeschi, 1981). Drawing on Social Exchange Theory (Blau, 1964) and the span of control perspective (Ouchi & Dowling, 1974), it is important to note that as the less influential members, subordinates have more to gain from their exchanges within these dyads, such as opportunities for professional development, promotions, and pay raises. As more influential members, supervisors have less to gain through this exchange relationship in that the importance of each

relationship for the supervisor is diffused across the employees under the supervisor's control (Bowler & Brass, 2006). Thus, the focus of the proposed research is upon the subordinates' meta-accuracy of supervisors' impressions.

Studying this type of employment relationship from the subordinate perspective provides for both scientific and practical value. From a scientific standpoint, the proposed research extends existing literature directed toward the study of metaperceptions by examining dyadic meta-accuracy as an individual difference variable in relation to employee outcomes within the workplace. Furthermore, it contributes to our understanding of exchange relationships between supervisors and subordinates through an examination of interpersonal perceptions within organizational settings. From a practical standpoint, the proposed research is justified in that awareness of one's social context may facilitate the individual's functioning within the organization. For example, employees may need to know others' impressions within the workplace in order to determine from whom to seek mentoring, assistance, feedback, or collaboration (Elfenbein, Eisenkraft, & Ding, 2009). A subordinate's ability to secure these resources and alter performance based on them may be dependent upon the accuracy of their metaperceptions. Many of these characteristics (e.g., assistance, development) are included within conceptualizations of supervisor-subordinate relationships (Ashford & Cummings, 1983; Feldman, 1986).

Literature Review and Statements of Contribution

The two primary research domains within the proposed study center upon theory related to metaperceptions and Leader-Member Exchange (LMX) theory (e.g., Graen & Uhl-Bien, 1995). The earliest investigations into metaperceptions focused upon how people form the beliefs they hold concerning the impressions they make upon others. This line of research began

with the formation of the symbolic interactionist theoretical framework (Cooley, 1902; Mead, 1934). The fundamental tenet of this perspective is that of the looking glass self (Cooley, 1902), the assertion that individuals' self-perceptions are derived from how they think others view them. Through the "looking glass," people determine their own self-perceptions and self-concept. This lens develops through various interactions with others over time (Funder & Colvin, 1988). Shrauger and Schoeneman (1979) highlighted four components of the symbolic interactionist perspective: an individual's self-concept, his or her beliefs about others' impressions of him or her (i.e., metaperceptions), others' actual impressions of the individual, and the individual's behavior. These four components interact with one another to crystallize the individual's metaperceptions and self-perceptions over time.

Other perspectives, however, have provided additional rationales for the formation of metaperceptions. Kenny and DePaulo (1993) reviewed several distinct theoretical positions and areas of focus, including personality psychology, clinical psychology, and sociology. For example, research within personality psychology has found socially anxious people to hold overly negative metaperceptions. Clinical psychology theorists (e.g., Beck, 1967) have questioned the accuracy of depressed individuals in these beliefs in relation to the concept of depressive reality (i.e., tendency for depressed individuals to be accurate in their assessments of themselves and their surroundings; e.g., Campbell & Fehr, 1990). Kenny and DePaulo (1993) discussed additional perspectives, such as those that assume individuals rely upon their self-concept in forming metaperceptions. Under this assumption, individuals may believe that their personal characteristics (as they see them) will become evident to others through interaction, and others' impressions will match their own self-concept (e.g., self-perception theory; Bem, 1967).

Taken together, this literature illustrates differences in how these beliefs are formed and in the resulting premises concerning the accuracy of such beliefs.

Research directed toward metaperceptions has primarily focused upon the degree to which individuals are accurate in their metaperceptions. Accuracy refers to the degree to which an individual's metaperceptions are congruent with what others actually think of the individual. Kenny and DePaulo's (1993) review of several empirical studies indicated that individuals were more accurate in their generalized metaperceptions than in specific metaperceptions directed toward others. Moreover, individuals tended to show consistent metaperceptions across various others with little differentiation, such that dyadic metaperceptions were less accurate. In other words, the research suggested that individuals tended to believe that all other people would view them in similar ways, and individuals were subsequently inaccurate in these judgments of others' impressions. More recent research by Carlson and Furr (2009), however, has questioned the scope of these conclusions. Carlson and Furr (2009) pointed out that many of the studies included in the above-mentioned review provided rather narrow investigations of metaperceptions, in terms of the "level of acquaintance" among the individuals providing metaperceptions and those providing impressions and in terms of the social contexts in which these acquaintances were familiar with the targets. Level of acquaintance refers to the degree to which individuals are familiar with one another (Albright, Forest, & Reiser, 2001). The results of this more recent empirical study suggest that individuals are accurate in their ability to judge the impressions of familiar others across social settings (e.g., college friends, family members; Carlson & Furr, 2009).

In light of this literature, the current research is directed toward moving the metaperceptions literature forward in several ways. While previous studies of meta-accuracy

have focused upon whether people have a general tendency to develop accurate (or inaccurate) metaperceptions, the proposed study examines the degree to which individual differences exist in the metaperceptions that individuals hold. More specifically, this research seeks to relate meta-accuracy to individual outcomes, such as perceptions of supervisor-subordinate relational quality. A related contribution concerns the proposed context of the study. By examining dyadic meta-accuracy within organizational settings, this research seeks to extend the span of the metaperception concept to studies of organizational behavior, and in turn, integrate related frameworks from the organizational behavior literature to the area of metaperceptions. By examining these proposed relationships, insights may be drawn regarding how meta-accuracy is utilized by subordinates in their exchanges with supervisors.

The leader-follower exchange is one of the most prevalent exchanges within organizational settings. Organizational research and theoretical frameworks have focused upon supervisors as leaders and subordinates as followers (Landy & Conte, 2010; e.g., Graen & Uhl-Bien, 1995; Kaiser, Hogan, & Craig, 2008). As such, the theoretical framework will draw upon LMX theory in providing an avenue and justification for specific hypotheses concerning dyadic meta-accuracy within an organizational context. LMX theory focuses upon the relationship between leader and member as the primary unit of focus within organizational leadership, rather than either the leader or the member separately (Graen & Uhl-Bien, 1995). In such a conceptualization of dyadic relationships, the supervisor serves as the leader, and the subordinate functions as the member. In addition, LMX theory provides a solid theoretical framework for examining meta-accuracy at the level of the dyad, and provides for an examination of potential antecedents and outcomes associated with LMX relationships. Therefore, the avenue by which the proposed research aims to investigate dyadic meta-accuracy is through formal, legitimate,

and mandated relationships within workplaces between supervisors and subordinates, consistent with mainline extant research (Graen & Uhl-Bien, 1995; Landy & Conte, 2010).

LMX theory was initially presented as an alternative to the traditional framework of the Average Leadership Style (ALS), which assumed that a leader was undifferentiated in the quality of the relationships s/he developed with his or her followers. Vertical Dyadic Linkage (VDL; Dansereau, Graen, & Haga, 1975), as it was originally called, and research directed toward this domain found that supervisors developed working relationships of differing quality with subordinates (Graen & Uhl-Bien, 1995). The LMX relationship consists of: “(a) a system of components and their relationships (b) involving both members of a dyad (c) in interdependent patterns of behavior and (d) sharing mutual outcome instrumentalities and (e) producing conceptions of environments, cause maps, and value” (Scandura, Graen, & Novak, 1986, p. 580). According to LMX theory, the quality of the working relationship between supervisor and subordinate is defined in terms of respect, trust, affect, and mutual obligation (Graen & Uhl-Bien, 1995; Liden & Maslyn, 1998; Schriesheim, Castro, & Cogliser, 1999). These characteristics are formed on the basis of each individual’s assessments of the other individual within the dyad and in terms of the professional relationship that exists between the two as supervisor and subordinate (Graen & Uhl-Bien, 1995). Members of the “in-group” exhibit high quality relationships with their supervisor, have greater latitude in decisions at work, and show greater job satisfaction than members of the “out-group” (e.g., Dansereau et al., 1975; Graen, Novak, & Sommerkamp, 1982; Townsend, Da Silva, Mueller, Curtin, & Tetrick, 2002). Subordinates with high quality LMX relationships conscientiously perform tasks that go beyond formal duties associated with their jobs; subordinates with low quality relationships perform more of the simple tasks required of the work group (Liden & Graen, 1980).

An extensive amount of empirical research has been directed toward examining the relationship between LMX quality and various job outcomes for subordinates. As discussed above, work group members who hold higher quality relationships with their supervisors are more likely to perform tasks that are not formally associated with their jobs, and as such, LMX quality is positively related to the performance of organizational citizenship behavior (OCB). OCB may be defined as discretionary work behavior that is not associated with formal reward systems or the core tasks of a particular job (OCB; Organ, 1997). Wayne, Shore, and Liden (1997) found a positive correlation between LMX quality and performance of OCB. Other research has established a positive relationship between LMX quality and performance ratings, and this may result from greater availability of resources provided to subordinates in high quality relationships, as well as potential positive leniency in supervisors' ratings for these favored subordinates (Duarte, Goodson, & Klich, 1994; Feldman, 1986; Wayne et al., 1997). In addition, Gerstner and Day's (1997) meta-analytic review found positive correlations between LMX quality and satisfaction (i.e., supervisor, overall). These positive consequences of LMX quality help establish the utility of LMX theory by showing its linkages with important job-related variables.

The theoretical framework of LMX theory provides additional justification for the utility of LMX theory within the proposed research on dyadic meta-accuracy. LMX theory and its fundamental tenets are based upon role theory (Katz & Kahn, 1966) and social exchange theory (Blau, 1964). With regard to LMX relationships, role theory posits that relational quality is determined by the degree to which the subordinate perceives the supervisor as effectively performing the duties and behaviors associated with his or her role as a leader, and vice-versa (Brouer & Harris, 2007). With regard to social exchange theory, the relational quality attached to

these dyads is expected to be a function of perceived costs and benefits associated with the relationship (Gerstner & Day, 1997). Both of these theories provide fundamental and useful premises that are highly relevant to the study of metaperceptions and meta-accuracy as both focus on the interaction within dyads and evaluations of one another's behaviors and perceptions. In addition, tenets of attribution theory (Heider, 1958) have been drawn upon in research involving LMX theory (e.g., Furst & Cable, 2008), and this theory provides a framework for understanding how meaning is derived with respect to others' behaviors.

In addition to the strong theoretical framework, LMX theory provides an examination of relational quality as an antecedent or outcome within the proposed research. LMX quality is the primary variable of interest within LMX theory, and it focuses on the perceived quality of the relationship between supervisor and subordinate as assessed by both members of the dyad (Graen & Uhl-Bien, 1995). Quality of an amicable and agreeable LMX relationship is indicated by such factors as mutual trust, professional respect, interpersonal affect, and loyalty (Schriesheim et al., 1999). Also, scholarly research (e.g., Gerstner & Day, 1997) has established a well-developed nomological network that allows for inclusion of worthy constructs (e.g., differentiation; job satisfaction; negative affectivity) within potential models that include LMX quality as a variable of interest. This nomological network will be referenced in the justification for the proposed hypotheses. A pictorial representation of the proposed hypotheses is presented in Figure 1.

Proposed Hypotheses

Several factors may influence subordinate's meta-accuracy. Communication frequency between supervisor and subordinate within dyadic relationships is a variable of interest in the present discussion of meta-accuracy. Research directed toward the formation and development of

metaperceptions suggests that the frequency with which individuals interact with one another may be important in developing more accurate metaperceptions through its effect upon both individuals (e.g., Albright & Malloy, 1999; Albright et al., 2001). This line of research has focused on the level of acquaintance between individuals, and research findings suggest a positive relationship between level of acquaintance and meta-accuracy of personality facets (Albright et al., 2001; e.g., Kenny, 1994; Levesque, 1997; Malloy, Albright, Kenny, Agatstein, & Winquist, 1997). Individuals who are more acquainted with one another are more accurate in their metaperceptions toward one another. Likely to be an important aspect of this relationship is the frequency with which these acquainted individuals communicate with each other. Specifically, a subordinate and supervisor who are more acquainted with one another are likely to communicate more frequently over time than other supervisors and subordinates who are not as well acquainted with one another. Subordinates who communicate more frequently with their supervisors are likely to be exposed to a greater amount of cues and feedback that will aid these subordinates in determining their supervisors' impressions of them. Such exposure to these cues and feedback will allow these subordinates to develop metaperceptions that are more congruent with their supervisors' impressions. It follows that the frequency with which supervisor and subordinate communicate will positively relate to subordinate meta-accuracy within supervisor-subordinate dyads.

Hypothesis 1: Communication frequency positively relates to subordinate meta-accuracy.

Proximity, which may be divided into physical and psychological proximity, may serve as an additional situational factor influencing subordinate meta-accuracy in supervisor-subordinate dyads. In the proposed research, physical distance refers to the proximity between

the workspaces of supervisors and subordinates. Greater physical distances between the workspaces of individuals will likely lead to less face-to-face interaction, and potentially greater technology-mediated communication (Burgoon et al., 2002). Subordinates who are separated by greater physical distance from their supervisors are less likely to receive feedback from them in the form of nonverbal behaviors that may aid the subordinate in forming accurate metaperceptions directed toward his or her supervisor (Burgoon et al., 2002). Research has shown that individuals involved in dyadic interactions in close physical proximity are able to utilize nonverbal mechanisms to convey their feelings toward the person with whom they are interacting and impressions of his or her personality (Burgoon, Olney, & Coker, 1987). Subordinates with greater physical proximity between their supervisors' workspaces and their own will likely develop more accurate metaperceptions. Thus, the following hypothesis is presented.

Hypothesis 2: Physical proximity between the work spaces of subordinates and supervisors positively relates to subordinate meta-accuracy, such that more proximal workspaces are associated with greater meta-accuracy.

Psychological distance or propinquity, refers to “perceived or experienced (rather than actual) distance and can include various dimensions such as time, space, and social distance” (Ledgerwood, Trope, & Chaiken, 2010, p. 34). Drawing on construal level theory, Ledgerwood et al. (2010) note that psychological distance influences the way individuals think about one another, in terms of specificity. When the object of interest is psychologically closer to the individual, the mental representation of that object is likely to be of greater specificity and allow for a more detailed view of the object. When the object is psychologically distant from the individual, the mental representation of that object is likely to be of less specificity and allow for

a more general view of the object. Psychological closeness differs from LMX quality in that it represents broader perceived similarities between two individuals. Such similarities are often represented in terms of interests, values, and tastes (Brown, Novick, Lord, & Richards, 1992). Thus, psychological closeness is not constrained to the work exchange relationship (e.g., professional respect) indicative of LMX quality. When the supervisor and the subordinate are psychologically distant, the supervisor is likely to hold a more general mental representation of the subordinate (Trope & Liberman, 2010). Thus, greater psychological distance is a concern for the subordinate in the development of metaperceptions of supervisors' impressions. The subordinate is less likely to ascertain specific details of the supervisor's impressions for cases in which the supervisor holds a more general mental representation of the subordinate. Metaperceptions will be less accurate for subordinates whose supervisors have formulated less specific impressions. Thus, the following hypothesis is posited.

Hypothesis 3: Psychological closeness between subordinate and supervisor positively relates to subordinate meta-accuracy.

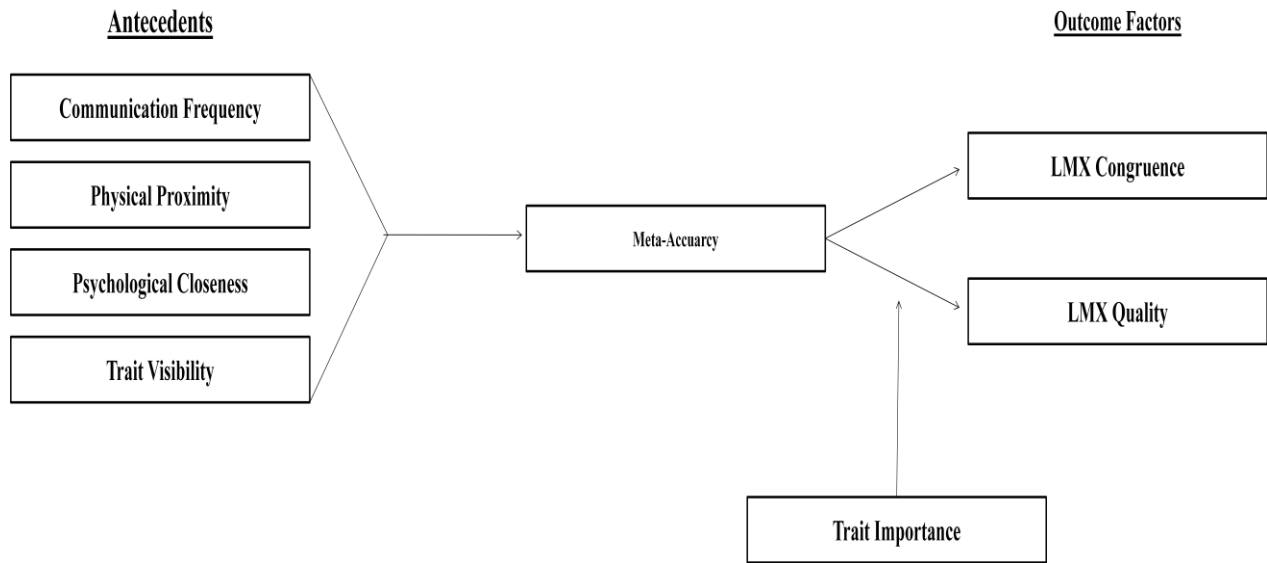


Figure 1 – Theoretical Model

In past research directed toward self-other agreement and individuals' perceptions of one another's personality characteristics, the "visibility" of the trait being examined has been shown to serve as an important factor to consider in relation to agreement, or accuracy (e.g., Funder & Colvin, 1988). The visibility of a personality trait refers to the degree to which the trait is apparent to others through interactions. Research has shown there to be greater agreement between self-perceptions and others' impressions for traits rated higher in terms of visibility, such as calmness, cheerfulness, and straightforwardness (e.g., Funder & Colvin, 1988; Kenrick & Stringfield, 1980). The individual's personal traits become apparent through behavioral observation by others, who utilize this information in constructing impressions of the individual (Funder, 1995; Funder & Colvin, 1997). Certain behavioral tendencies associated with particular traits may be of a more latent nature, such as thoughtfulness and certain physical reactions associated with emotionality (Campbell, 2005; Kenrick & Stringfield, 1980). Kenrick and Stringfield (1980) explained that arousal may be expressed in the form of cold hands or "butterflies" that may not be immediately observable to others through direct observation of the individual's behavior. In these cases, the individual may identify him or herself as an emotional person but may not be recognized as such by others who do not observe behaviors indicative of such a trait (e.g., stuttering; blushing). Other traits, rated high in extraversion (e.g., sociable, outgoing), are directly observable through social interactions (Campbell, 2005; Funder & Dobroth, 1987). In addition to the degree to which the trait manifests itself through observable behavior, other factors influencing the visibility of the trait include: the degree to which confirming and disconfirming behaviors of the trait can be imagined, the trait is perceived as subjectively easy to judge, and only a few confirming behaviors are necessary to establish the trait (Funder & Dobroth, 1987).

For traits with associated behaviors that are more readily apparent through social interaction, it is likely that observers will be better able to ascertain the level of that particular trait. The outcome by which more visible traits yield greater self-other and inter-judge agreement is referred to as the trait visibility effect (Watson, Hubbard, & Wiese, 2000). The proposed research seeks to extend the trait visibility effect to meta-accuracy, broadening beyond self-perceptions to the congruence between subordinates' metaperceptions and supervisors' impressions. Agreement across self and others is facilitated by trait visibility through its effect upon access to observation of behaviors indicating the focal trait. This conceptualization of trait visibility emphasizes its role within the observer's perceptual processes, rather than the individual under focus. Behaviors associated with traits with greater visibility allow for a more complete impression of the trait to form within the supervisor's impression. It follows that subordinates' metaperceptions and supervisors' impressions will be more congruent for traits with greater visibility. In addition, the symbolic interactionist perspective posits that self-perceptions are a function of metaperceptions and develop through interactions with others (Shrauger & Schoeneman, 1979). Moreover, research suggests a strong correlation between self-perceptions and metaperceptions (Albright et al., 2001; Kenny & DePaulo, 1993). Individuals should recognize the visibility of their own personality traits and the extent to which they are apparent to others through their behavioral interactions. It follows that subordinates' metaperceptions for traits with greater visibility will be more reflective of supervisors' impressions, leading to greater subordinate meta-accuracy.

Hypothesis 4: Traits with greater visibility are associated with greater subordinate meta-accuracy.

The present research aims to identify organizational and relational antecedents, as well as outcomes, of subordinate meta-accuracy. In the hypotheses and theoretical rationale proposed above, antecedents are hypothesized to relate to meta-accuracy in a linear and continuous fashion. Thus, meta-accuracy is conceptualized as a linear construct, ranging from the absence of accuracy (complete inaccuracy) to complete accuracy (absence of inaccuracy). It is proposed that the antecedents of meta-accuracy will function in such a way that greater levels or frequencies of these variables will be associated with more meta-accuracy and vice-versa. For example, it is proposed that subordinates who communicate more frequently with their supervisors will develop more accurate metaperceptions, irrespective of the nature of the supervisors' impressions of the subordinate. Specifically, greater meta-accuracy is proposed to exist whether the supervisor holds positive or negative impressions of the subordinate. More frequent communication with one's supervisor should facilitate a better understanding on the part of the subordinate of his or her supervisor's impressions of him or her – regardless of whether those impressions are positive or negative. The proposed outcomes of meta-accuracy, however, require distinctions to be made not only between accuracy and inaccuracy, but within accuracy and inaccuracy. For example, an association between meta-accuracy and LMX quality is likely to be dependent upon whether the subordinate's supervisor holds positive or negative impressions of the supervisor. Specifically, there are likely to be fundamental differences between subordinates with accurate metaperceptions of supervisors who view them negatively and subordinates with accurate metaperceptions of supervisors view them positively. As such, the way in which meta-accuracy is conceptualized differs as a function of the proposed non-continuous relationship this variable is likely to exhibit in relation to work outcomes. Therefore, with concern to meta-

accuracy's relationship with LMX quality, it is important to explore the components of accuracy and inaccuracy within individuals' metaperceptions.

With regard to the study of congruence of perceptions and beliefs between individuals, Yammarino and colleagues (Atwater, Ostroff, Yammarino, & Fleenor, 1998; Atwater, Waldman, Ostroff, Robie, & Johnson, 2005; Atwater & Yammarino, 1997; Yammarino & Atwater, 1997) provided a conceptualization of self-other agreement that is extended here to the present study of meta-accuracy. This theoretical conceptualization of agreement, or accuracy, allows for a more nuanced view of congruence – not only on a continuum from inaccurate to accurate. In their model, four categories of agreement are proposed and defined. In this model, outlined by Yammarino and Atwater (1997), these four agreement types are defined in terms of the levels of the particular trait (e.g., high conscientiousness, low conscientiousness) with which self and other attribute to the target. The “accurate-high” category is characterized by congruence between self and other when both ratings are on the high end of the trait's continuum. For example, both self and other attribute high agreeableness to the target. The “accurate-low” category is characterized by congruence between self and other when both ratings are on the low end of the trait's continuum. The “inaccurate-overestimator” category comprises individuals who provide higher self ratings than they receive from the other rater, or raters. The “inaccurate-underestimator” category comprises individuals who provide lower self ratings than they receive from the other raters. A pictorial representation of the agreement model is presented in Figure 2.

This categorical conceptualization of self-other agreement has been extended to other areas of research, such as the study of congruence between supervisors' and subordinates' perceptions of LMX quality (e.g., Cogliser, Schriesheim, Scandura, & Gardner, 2009).

Yammarino and Atwater's (1997) model provides useful insights to the study of meta-accuracy,

by proposing hypotheses that go beyond traditional, linear conceptualizations. Using the self-other agreement model proposed by Yammarino and colleagues (e.g., Atwater et al., 1998; Yammarino & Atwater, 1997), the four categories of agreement may coincide with four types of accuracy in metaperceptions. The “accurate-high” category consists of individuals whose metaperceptions are on the high end of the trait’s continuum, and are also accurate with others’ perceptions. For example, subordinates who accurately perceive their supervisor to view them as high in conscientiousness fall into this category. The “accurate-low” category consists of individuals whose metaperceptions are on the low end of the trait’s continuum, and are also accurate with others’ perceptions. For example, subordinates who accurately perceive their supervisor to view them as low in conscientiousness fall into this category. The “inaccurate-overestimator” category is characterized by inaccuracy in which the individuals’ metaperceptions are higher than the ratings given for that particular trait by the other, or others. For example, subordinates who inaccurately perceive their supervisor to view them as high in conscientiousness fall into this category. The “inaccurate-underestimator” category is characterized by inaccuracy in which the individuals’ metaperceptions are lower than the ratings given for that particular trait by the others. For example, subordinates who inaccurately perceive their supervisor to view them as low in conscientiousness fall into this category.

The category that characterizes the subordinate has important implications for the relationship with his or her supervisor (Yammarino & Atwater, 1997). In the self-other agreement model, the “accurate-high” category is linked to very positive personnel outcomes, whereas the “accurate-low” category is linked to negative personnel outcomes. The “inaccurate-underestimator” group is linked to mixed outcomes, whereas the “inaccurate-overestimator” group is linked to very negative outcomes. Thus, the groups may be ordered as such, from most

positive to most negative outcomes: accurate-high, inaccurate-underestimator, accurate-low, and inaccurate-overestimator. Utilizing the current conceptualization of this model with meta-accuracy, it follows that the “accurate-high” category will be linked to very positive personnel outcomes, whereas the “accurate-low” category will be linked to negative personnel outcomes. The “inaccurate-underestimator” group will be linked to mixed outcomes, whereas the “inaccurate-overestimator” group will be linked to very negative outcomes. As such, the groups may be ordered from most positive to most negative outcomes: accurate-good, inaccurate-underestimator, accurate-poor, and inaccurate-overestimator (see Figure 2).

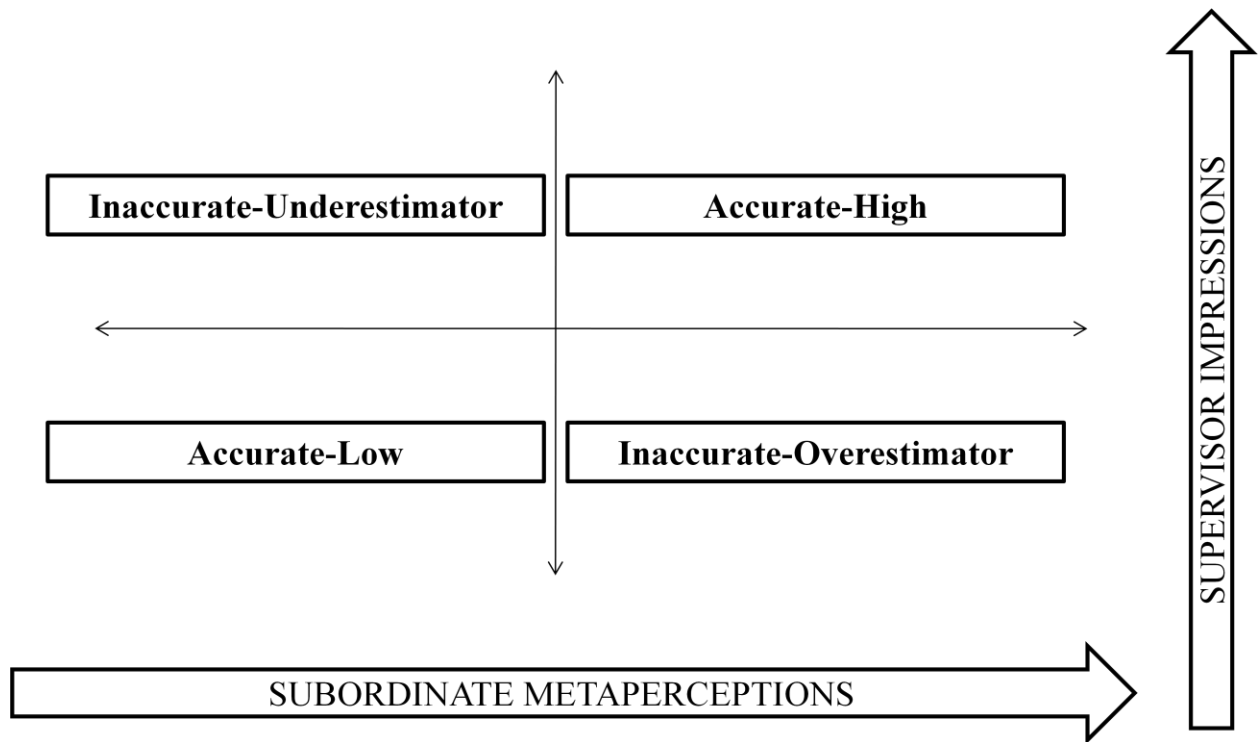


Figure 2 – Categories of Meta-Accuracy

This model has implications for the relationship between meta-accuracy and LMX quality for subordinates, in consideration of the various characteristics associated with individuals falling within each of these categories of meta-accuracy. The following are outcomes presented by Yammarino and Atwater (1997). Those employees in the “accurate-high” category

are likely to be good decision-makers with regard to job-relevant decisions, have less conflict with other organizational members, and utilize feedback from others to alter their behaviors appropriately. Subordinates in the “accurate-low” category are likely to be poor performers, but are able to diagnose their weaknesses. However, these employees are often unable to take actions to improve their performance, and they may be either motivated or unmotivated subordinates depending on the origin of their poor performance (e.g., attitude vs. ability). Subordinates in both the “inaccurate-overestimator” and “inaccurate-underestimator” groups are inaccurate in their diagnosis of their strengths and weaknesses, are bad decision-makers, and require explicit feedback from others in order to adjust their performance and self-evaluations (see Figure 2).

Implications for the various types of meta-accuracy may also be drawn from the metacognition literature. Subordinates falling in the “inaccurate-overestimator” group are likely to experience the most negative outcomes, as a result of their inability to recognize the negative impressions of others, or doing anything about it. Those in the “accurate-low” group are better able to recognize negative feedback, but may be unable to improve as a result of low self-confidence (Atwater et al., 1998). Thus, these subordinates are more susceptible to some negative relational patterns with their supervisors. Those subordinates who are both accurate in their metaperceptions and elicit favorable impressions will function at the highest level (e.g., task performance), receiving high levels of support and confidence from their supervisors. Those subordinates who are accurate in judging their supervisors’ unfavorable impressions are likely to struggle to form a high quality LMX with their supervisors as a result of poor performance. However, these subordinates hold an advantage over “overestimators” in that they recognize negative feedback from their supervisors, and thus, are better able to attend to this information. In sum, LMX quality is hypothesized to vary across the four accuracy types; the quality of the

relationship between subordinate and supervisor is proposed to range from highest to lowest quality, as such: accurate-good, inaccurate-underestimator, accurate-poor, inaccurate-overestimator. Hypotheses are directed toward perceptions of LMX quality, as reported by both subordinates and supervisors. Research suggests that supervisors and subordinates may evaluate different aspects of their relationships with one another when reporting relational quality (Sin, Nahrgang, & Morgeson, 2009). Furthermore, research has shown only a small to moderate association between supervisor and subordinate perceptions of LMX quality (Gerstner & Day, 1997). As such, the hypotheses are specified with regard to both supervisor and subordinate perceptions of LMX quality to capture a more complete representation of the proposed relationships.

Hypothesis 5a: Subordinate perceptions of LMX quality vary across the four categories of meta-accuracy.

Hypothesis 5b: Supervisor perceptions of LMX quality vary across the four categories of meta-accuracy.

Hypothesis 6a: Subordinates' perceptions of LMX quality are highest for the accurate-high category and lowest for the inaccurate-overestimator category, decreasing in quality from highest to lowest in this order: accurate-high, inaccurate-underestimator, accurate-low, inaccurate-overestimator.

Hypothesis 6b: Supervisors' perceptions of LMX quality are highest for the accurate-good category and lowest for the inaccurate-overestimator category, decreasing in quality from highest to lowest in this order: accurate-high, inaccurate-underestimator, accurate-low, inaccurate-overestimator.

As discussed above, the quality of the LMX relationship is defined in terms of four interrelated dimensions: respect, contribution, mutual affect and mutual obligation (Graen & Uhl-Bien, 1995; Liden & Maslyn, 1998). Most empirical research that has examined LMX quality has operationalized quality as a unidimensional construct (Schriesheim et al., 1999). Moreover, in Graen and Uhl-Bien's (1995) review of the development of LMX theory, the authors concluded that the LMX dimensions should be represented by a single dimension. The authors cited the interrelatedness among the dimensions as the primary factor for developing this conceptualization. Graen and Uhl-Bien (1995) noted that empirical findings consistently suggest a homogenous, single dimension of LMX. With this in mind, the above-stated hypothesis is placed with regard to overall LMX quality, conceptualizing the construct as a single dimension of relational quality between subordinate and supervisor. However, it may be useful to examine LMX quality in terms of the four dimensions (i.e., respect, affect, contribution, mutual obligation) to determine potential differential effects of subordinate meta-accuracy upon these factors. Therefore, exploratory analyses will be conducted to examine potential differential effects of meta-accuracy across the four dimensions of LMX quality.

The focus of the proposed research is upon metaperceptions of personality, as indicated by the Big 5 personality traits (emotional stability, extraversion, openness, conscientiousness, agreeableness). In the previous section, it was hypothesized that subordinate meta-accuracy would be related to subordinates' perceptions of LMX quality with their supervisor. However, the *importance* of the personality trait being linked to LMX quality may serve as an additional factor worth examining. Specifically, previous research has examined the link between personality and performance on the job (e.g., Barrick & Mount, 1991; Blickle et al., 2008; Hertz & Donovan, 2000), and in the most comprehensive meta-analysis on the relationship between

individual differences and job performance to date, Schmidt and Hunter (1998) found conscientiousness (of the Big 5 personality factors) to be the strongest personality predictor of job performance. Weaker, but significant, associations were found for extraversion and emotional stability.

LMX quality develops over time as subordinate and supervisor work together, with the quality of this relationship dependent upon the degree to which each member of the dyad fulfills their work roles (Dienesch & Liden, 1986; Graen & Scandura, 1987). Moreover, the components of the LMX relationship are themselves rooted in the working, rather than personal, exchange relationship between supervisor and subordinate (Graen & Uhl-Bien, 1995). Thus, LMX quality is directly tied to subordinates' performance on the job. Therefore, metaperceptions of traits that are more closely tied to performance on the job should hold greater influence in the relationship between meta-accuracy and LMX quality. It follows that subordinates' meta-accuracy regarding conscientiousness, the strongest predictor of job performance among the Big 5 personality factors, will exhibit the strongest effect upon LMX quality. In other words, subordinate meta-accuracy of more job-relevant traits (e.g., conscientiousness) is more important in maintaining a positive working relationship with one's supervisor. Subordinate meta-accuracy of less job-relevant traits (e.g., openness), in turn, is less important in maintaining a positive working relationship with one's supervisor. This is proposed in the following testable hypothesis.

Hypothesis 7a: Relative to other traits, subordinate meta-accuracy regarding conscientiousness will exhibit the greatest effect upon subordinates' perceptions of LMX quality across the four categories of accuracy.

Hypothesis 7b: Relative to other traits, subordinate meta-accuracy regarding conscientiousness will exhibit the greatest effect upon supervisors' perceptions of LMX quality across the four categories of accuracy.

Variance associated with subordinate meta-accuracy may be shared with other perceptual discrepancies between supervisor and subordinate. Extensive research suggests only small to moderate correlations between supervisors and subordinates' corresponding judgments of LMX quality (Cogliser et al., 2009; Zhou & Schriesheim, 2009). In their meta-analysis of LMX, Gerstner and Day (1997) found a corrected correlation of .37 between supervisors' and subordinates' perceptions of LMX quality. These findings present questions concerning the construct validity and appropriate level of analysis of the variable, and highlight the subjective nature of such an exchange relationship (Zhou & Schriesheim, 2009).

The LMX theoretical framework is partly based on role theory, which posits that LMX quality is determined by the degree to which supervisors and subordinates fulfill their respective roles in one another's eyes. Therefore, the degree to which supervisors and subordinates understand one another is likely to be an important component of this proposition. Indeed, discrepancies between supervisors' and subordinates' perceptions of LMX quality suggest differences in actors' cognitive and sense-making processes (Huang, Wright, Chiu, & Wang, 2008). Such discrepancies concerning the object of interest (e.g., LMX quality) may be the outcome of differences in attributions of performance, in opportunities for observation and feedback, and in conceptualizations of the object (Zhou & Schriesheim, 2009). For example, supervisor and subordinate may use different standards with regard to what exactly constitutes a high quality relationship. Thus, what may be considered a high quality LMX relationship for a subordinate may not be for his or her supervisor.

Cognitive perceptual flaws among subordinates may inhibit high agreement with corresponding supervisors (Cogliser et al., 2009). Cognitive processes, evident in such perceptual biases as the fundamental attribution error, that lead to incongruence among subordinates' and supervisors' perceptions of LMX quality may carry over to accuracy among subordinates' metaperceptions. Specifically, metacognitive processes facilitating subordinate meta-accuracy will influence the degree to which subordinates are able to alter low or maintain high performance. Such behaviors are important in the eyes of the supervisor, who will develop expectations and allocate resources based on such performance criteria (Cogliser et al., 2009). Cogliser et al. (2009) noted that supervisors' expectations and resource allocations serve as feedback for subordinates, though subordinates may interpret this feedback in different ways based upon their own views of the LMX relationship. In short, these differences among supervisors' and subordinates' understanding of workplace functioning manifested in the form of subordinate metaperceptions will likely lead to differences between subordinates' metaperceptions and supervisors' impressions, as well as in perceptions of LMX quality. In addition to dispositional and cognitive mechanisms linking meta-accuracy and congruence in LMX perceptions, LMX quality is likely to be associated with the same situational factors proposed to influence subordinate meta-accuracy, including communication frequency and physical distance (Cogliser et al., 2009; Kacmar, Witt, Zivnuska, & Gully, 2003). The mechanism by which congruence develops among perceptions of LMX quality is likely to be similar to that proposed with regard to subordinate meta-accuracy. Specifically, such relational dynamics influence the degree to which information on relational quality is available to both members of the dyad.

Hypothesis 8: Subordinate meta-accuracy positively relates to supervisor-subordinate agreement in perceptions of LMX quality.

MATERIALS AND METHODS

Sample

Seventy-two subordinates and their corresponding supervisors ($N = 72$ dyads) served as participants in the study. A total of 163 working adults completed the subordinate survey, meeting the appropriate criteria (i.e., not self-employed, working 20 hours per week, viable supervisor e-mail). This yielded a response rate for supervisors of 44.2%. The subordinate sample ($N = 72$) was approximately 28.2% male with an average age of 37.7 years (range 20 – 69; $SD = 13.5$). Subordinates were 75.0% Caucasian, worked an average of 37.4 hours per week ($SD = 8.0$), with 7.1 years ($SD = 7.7$) organizational tenure, and 10.1 ($SD = 10.1$) years career tenure. The supervisor sample was approximately 54.4% male with an average age of 43.2 years (range 20 – 65; $SD = 11.8$). Supervisors were 82.4% Caucasian, worked an average of 47.5 hours per week ($SD = 8.9$), with 14.1 years ($SD = 11.0$) organizational tenure, and 17.2 years ($SD = 11.5$) career tenure. Subordinates reported an average relationship length of 7.8 years ($SD = 9.3$) with corresponding supervisors, and 10.1 years ($SD = 9.5$) with corresponding informants. Approximately 35.2% of subordinates reported working for companies with 1,000 employees or more, with the remaining subordinates reporting organization sizes of: 14 or fewer employees (18.3%), 15 – 100 (21.1%), 101 – 499 employees (14.1%), and 500 – 999 (11.3%) employees. The most frequently reported occupation divisions were: sales (21.1%), office and administrative support (21.1%), professional (19.7%), management (18.3%), and service (9.9%). Four supervisors provided ratings for more than one subordinate in the present study. Such a component of the present research allowed for a more realistic representation of the population, owing to the differentiation among subordinates in supervisors' ratings.

Procedure

The procedure for data collection was adapted from Vazire's (2006) procedure for collecting informant reports. Undergraduate students from several universities in the Southeastern and Southwestern United States were offered the opportunity to participate in a study of "how people perceive each other" (Funder & Colvin, 1988) as enrollees within lower-level Psychology courses for extra credit, in lieu of completion of an alternative research project. Multiple individual courses were used to attract potential participants; college students serving as participants will be referred to from here forward as *informants*. Informants were asked to nominate working adults (i.e., working 25 or more hours per week) whom they know well, who know the informant well, and who would probably be willing to serve as survey participants. An email invitation to be sent to the subordinates was delivered via email to informants, and informants were asked to send email invitations to the nominated working adults, subsequently referred to as *subordinates*, requesting their participation.

Subordinates were asked to complete a web-based questionnaire with survey items pertaining to themselves, their relationship with the informant, and their relationship with their supervisor. The web-based questionnaire also asked the subordinate to include the first name and e-mail address of their *supervisor*, and to tell the supervisor to expect an e-mail regarding participation in the study. Approximately one week after subordinates completed the web-based questionnaire, supervisors were contacted by e-mail by the researcher. Supervisors were asked to complete a web-based questionnaire with survey items pertaining to their relationship with the subordinate. Every two weeks, supervisors who had yet to complete questionnaires were contacted with a short follow-up e-mail, up to three separate times. Student participants were compensated with partial or full extra credit, depending upon the number of adults they successfully recruited to complete the questionnaires. Subordinates and supervisors who

completed the survey were eligible for prize drawings, valued at \$25, and were awarded to two participants.

Measures

Self-Perceptions. Self-perceptions refer to beliefs individuals hold regarding how they view themselves. Subordinates were asked to, “Please rate the extent to which each adjective describes you.” Self-perceptions were assessed using an adapted version of the NEO Personality Inventory (NEO-PIR; Costa & McCrae, 1992) developed by Carlson and Furr (2009). The scale consisted of 30 trait descriptions measuring the Big 5 personality traits with six facets for each factor, ranging from 1 (low) to 7 (high). The name of each facet was provided, along with brief descriptions for the low and high poles of the facet. A sample item is: warmth: “neither hostile nor necessarily lacking in compassion, but more formal, reserved, and distant in manner” (low), and “affectionate and friendly; genuinely like people; easily forms close attachments to others” (high). The Big 5 dimensions and accompanying facets were presented in Table 1. Carlson and Furr (2009) observed an average reliability of $\alpha = .69$ across the five factors for the metaperceptions measure. Internal consistencies met acceptable across all five factors in the present study: Extraversion ($\alpha = .79$; $M = 5.01$, $SD = .97$), Agreeableness ($\alpha = .78$; $M = 5.43$, $SD = .84$), Conscientiousness ($\alpha = .73$; $M = 5.70$, $SD = .72$), Emotional Stability ($\alpha = .76$; $M = 3.28$, $SD = 1.06$), Openness ($\alpha = .74$; $M = 4.82$, $SD = .98$).

Metaperceptions. Metaperceptions refer to beliefs individuals hold regarding how they are viewed by others. Subordinates were asked to, “Please provide a rating for each adjective that indicates how you believe others would rate you.” Metaperceptions were assessed using an adapted version of the NEO Personality Inventory (NEO-PIR; Costa & McCrae, 1992) developed by Carlson and Furr (2009). The scale consisted of 30 trait descriptions measuring the

Big 5 personality traits with six facets for each factor, ranging from 1 (low) to 7 (high). The name of each facet was provided, along with brief descriptions for the low and high poles of the facet. A sample item is: warmth: “neither hostile nor necessarily lacking in compassion, but more formal, reserved, and distant in manner” (low), and “affectionate and friendly; genuinely like people; easily forms close attachments to others” (high). The Big 5 dimensions and accompanying facets were presented in Table 1. Carlson and Furr (2009) observed an average reliability of $\alpha = .69$ across the five factors. Internal consistencies met acceptable across all five factors in the present study: Extraversion ($\alpha = .81$; $M = 5.00$, $SD = 1.05$), Agreeableness ($\alpha = .81$; $M = 5.23$, $SD = 1.02$), Conscientiousness ($\alpha = .82$; $M = 5.44$, $SD = .97$), Emotional Stability ($\alpha = .82$; $M = 3.17$, $SD = 1.22$), Openness ($\alpha = .71$; $M = 4.61$, $SD = .96$).

Communication Frequency. Communication frequency refers to the degree to which supervisor and subordinate interact with one another. Subordinates were asked to report communication frequency (see Appendix A) with supervisors using a four-item scale (McAllister, 1995), ranging from 1 (less than once a month) to 5 (more than once a day). A sample item is: “How frequently do you initiate work-related interaction with your supervisor?” McAllister (1995) found the scale’s reliability to be $\alpha = .91$. Internal consistency for the scale was $\alpha = .86$ ($M = 5.76$, $SD = 1.31$), meeting acceptable standards.

Physical Proximity. Physical distance refers to the degree to which supervisor and subordinate are proximally located. Subordinates were asked to, “*Over your working relationship with this person, please rate your physical proximity to this person’s workspace,*” with subordinates using a one-item scale (Klauss & Bass, 1982), ranging from 1 (very distant – i.e., different city) to 5 (very close – i.e., same floor, within 100 ft or 30.48 m).

Psychological Closeness. Psychological closeness refers to the perceived closeness between supervisor and subordinate. Subordinates were asked to report their psychological

distance from their supervisors using Wheelless' (1978) Interpersonal Solidarity scale (see Appendix B). The scale contains 20 items, ranging from 1 (strongly disagree) to 7 (strongly agree). Sample items are: "We are very close to each other" and "We do not really understand each other." Wheelless (1978) found the unidimensional, 20-item scale's reliability to be $\alpha = .96$.

Table 1 - Big 5 Personality Factors and Facets

Big 5 Factor	Facet
Extraversion	Warmth
	Gregariousness
	Assertiveness
	Activity
	Excitement Seeking
	Positive Emotions
Agreeableness	Trust
	Straightforwardness
	Altruism
	Compliance
	Modesty
	Tender-Mindedness
Conscientiousness	Competence
	Order
	Dutifulness
	Achievement Striving
	Self-Discipline
	Deliberation
Emotional Stability	Anxiety
	Hostility
	Depression
	Self-Consciousness
	Impulsiveness
	Vulnerability
Openness	Fantasy
	Aesthetics
	Feelings
	Actions
	Ideas
	Values

A pilot study was conducted to aid in the development of a reliable measure of psychological closeness. A total of 47 working adults were recruited to participate in the study,

using the procedure described above whereby college students at a university in the Southeast received extra credit in a lower-level psychology course for recruitment of working adults. Principal components factor analysis was used to identify a shortened version of the scale to assess psychological closeness in the main sample. Due to poor loadings on the primary component, 8 items were removed from the final scale. The 12-item scale accounted for approximately 54% of the variance. Factor loadings ranged from .64 to .85. In the main sample ($N = 72$), the internal consistency of this scale was $\alpha = .92$ ($M = 4.49$, $SD = 1.27$), meeting acceptable standards. The 12 items retained in the final scale are indicated in Appendix B.

LMX Quality. LMX quality may represent a subordinate's perceptions of the relationship with his or her supervisor. Two measures of LMX quality were used in the current study. The LMX 7 scale (Graen & Scandura, 1987) was used to measure the unidimensional conceptualization of LMX quality (see Appendix C). The scale consisted of seven items, ranging from 1 (strongly disagree) to 7 (strongly agree). A sample item is: "I always know how satisfied my supervisor is with what I do." The average reliability for this scale in a comprehensive meta-analysis was $\alpha = .78$ for members, or subordinates (Gerstner & Day, 1997). Internal consistency for this scale was $\alpha = .91$ ($M = 5.7$, $SD = 1.09$), meeting acceptable standards.

The LMX Multidimensional Measurement (MDM) scale (Liden & Maslyn, 1998) was used to measure the multidimensional conceptualization of LMX quality (see Appendix D). LMX quality is defined in terms of four dimensions: affect, respect, loyalty, and contribution. Each dimension was measured by three items, ranging from 1 (do not agree at all) to 7 (agree completely). Sample items are: "I like my supervisor as a person" (affect), "I am impressed with my supervisor's knowledge of his or her job" (respect), "My supervisor defends my work when questioned by a superior, even without full knowledge of the issue in question" (loyalty), and "I do work for my superior that goes beyond what is specified in my job description"

(contribution). Liden and Maslyn (1998) found the dimension's reliabilities to range from $\alpha = .59$ (contribution) to $\alpha = .90$ (affect). Internal consistencies met acceptable levels across all four dimensions in the present study: Affect ($\alpha = .94$; $M = 6.04$, $SD = 1.15$), Loyalty ($\alpha = .91$; $M = 5.78$, $SD = 1.20$), Contribution ($\alpha = .76$; $M = 5.90$, $SD = .97$), Professional Respect ($\alpha = .95$; $M = 6.09$, $SD = 1.22$).

Impressions of Subordinate. Supervisors were asked to, "Please provide a rating for each adjective that describes this person," for the recruiting subordinate. Impressions were assessed using an adapted version of the NEO Personality Inventory (NEO-PIR; Costa & McCrae, 1992) developed by Carlson and Furr (2009). The scale consisted of 30 trait descriptions measuring the Big 5 personality traits with six facets for each factor, ranging from 1 (low) to 7 (high). The Big 5 dimensions and accompanying facets are presented in Table 1. The average reliability for the scale was $\alpha = .76$ (Carlson & Furr, 2009). Internal consistencies met acceptable across all five factors in the present study: Extraversion ($\alpha = .78$; $M = 5.00$, $SD = .96$), Agreeableness ($\alpha = .77$; $M = 5.45$, $SD = .89$), Conscientiousness ($\alpha = .91$; $M = 5.85$, $SD = 1.08$), Emotional Stability ($\alpha = .87$; $M = 3.07$, $SD = 1.23$), Openness ($\alpha = .72$; $M = 4.57$, $SD = .97$).

Trait Visibility. Trait visibility refers to the ease with which an observer may judge an individual's level on a particular trait. Visibility of each trait assessed in metaperceptions and impressions were measured (see Appendix E) using a one-item scale (Rothbart & Park, 1986), ranging from 1 (quite difficult) to 9 (quite easy). The item was: "How difficult or easy would it be to judge the degree to which another person had this trait?" (easiness). Internal consistencies met acceptable levels across all five factors in the present study: Extraversion ($\alpha = .87$; $M = 7.36$, $SD = 1.35$), Agreeableness ($\alpha = .81$; $M = 7.37$, $SD = 1.18$), Conscientiousness ($\alpha = .91$; $M = 7.80$, $SD = 1.17$), Emotional Stability ($\alpha = .83$; $M = 6.29$, $SD = 1.87$), Openness ($\alpha = .93$; $M = 6.61$, $SD = 1.39$).

High and low visible traits were identified using the procedure developed by Campbell (2005). Items falling one half standard deviation above the mean were identified as high visible traits, and items falling below one half standard deviation below the mean were identified as low visible traits. The results are presented in Table 2. High visible traits included: order, competence, self-discipline, dutifulness, achievement-striving, compliance, and straightforwardness. Low visible traits included: fantasy, vulnerability, depression, feelings, aesthetics, and self-consciousness.

LMX Quality. LMX quality may represent a supervisor's perceptions of the relationship with his or her subordinate. The LMX 7 scale (Graen & Scandura, 1987) was used to measure supervisors' perceptions of LMX quality (see Appendix F). Following standards with regard to the measurement of LMX quality perceptions (e.g., Cogliser et al., 2009; Liden, Wayne, & Stilwell, 1993), this measure was constructed parallel to the scale assessing subordinate perceptions of LMX quality, with word changes made to the original format. The scale consisted of seven items, ranging from 1 (strongly disagree) to 7 (strongly agree). A sample item is: "This subordinate always knows how satisfied I am with what s/he does." The average reliability for this scale in a comprehensive meta-analysis was $\alpha = .78$ for leaders, or supervisors (Gerstner & Day, 1997). Internal consistency for this scale was $\alpha = .82$ ($M = 6.13$, $SD = .65$), meeting acceptable standards.

The LMX Multidimensional Measurement (MDM) scale (Liden & Maslyn, 1998) was used to measure the multidimensional conceptualization of LMX quality (see Appendix G). LMX quality is defined in terms of four dimensions: affect, respect, loyalty, and contribution. Each dimension was measured by three items, ranging from 1 (do not agree at all) to 7 (agree completely). Sample items are: "I like my subordinate very much as a person" (affect), "I am

impressed with my subordinate's knowledge of his or her job" (respect), "My subordinate defends my decisions, even without complete knowledge of the issue in question" (loyalty), and "I provide support and resources for my subordinate that goes beyond what is specified in my job description" (contribution). Liden and Maslyn (1998) found the dimension's reliabilities to range from $\alpha = .59$ (contribution) to $\alpha = .90$ (affect). Internal consistencies met acceptable levels across all four dimensions in the present study: Affect ($\alpha = .87$; $M = 6.31$, $SD = .93$), Loyalty ($\alpha = .74$; $M = 5.93$, $SD = .86$), Contribution ($\alpha = .88$; $M = 6.23$, $SD = .80$), Professional Respect ($\alpha = .94$; $M = 6.34$, $SD = .96$).

Table 2 - High and Low Visible Traits

High Visible Traits			Low Visible Traits		
Facet	M	SD	Facet	M	SD
Order	8.01	1.28	Fantasy	5.35	2.18
Competence	7.99	1.31	Vulnerability	5.69	2.07
Self-Discipline	7.85	1.26	Depression	5.97	2.38
Dutifulness	7.81	1.54	Feelings	6.07	2.11
Achievement-Striving	7.80	1.34	Aesthetics	6.26	1.92
Compliance	7.76	1.46	Self-Consciousness	6.28	2.28
Straightforwardness	7.76	1.66			

Note. N = 72. Valid listwise N = 63.

Meta-Accuracy. The personality facets were scaled within each of the corresponding personality factors for both metaperceptions and impressions to create the five variables (emotional stability, extraversion, openness, conscientiousness, agreeableness) for subsequent analyses. The procedure used to group subordinates' meta-accuracy within Yammarino and Atwater's (1997) 4 categories of accuracy were adapted from Cogliser et al.'s (2009) study of

LMX balance across supervisors and subordinates. First, a median split was performed on the subordinates' metaperceptions and the supervisors' impressions. Relationships that had both metaperceptions and impressions above the median were defined as "accurate-high." Relationships with metaperceptions and impressions at or below the median were defined as "accurate-low." Relationships with metaperceptions above the median and impressions below the median were defined as "inaccurate-overestimator," and relationships characterized by metaperceptions below the median and impressions above the median were defined as "inaccurate-underestimator."

LMX Agreement. As noted above, both subordinate and supervisor judged LMX quality using the same seven-item measure with the parallel referent. The average deviation (AD) index was calculated for each supervisor-subordinate dyad. The AD index is a calculation of interrater agreement, developed by Burke, Finkelstein, and Dusig (1999). The index is appropriate for the assessment of agreement between judges of the same target rated on an interval scale (LeBreton & Senter, 2008). In the present study, supervisor and subordinate serve as judges of LMX quality rated on an interval scale. The formula is:

$$AD_{M(j)} = \frac{\sum |X_{jk} - X_j|}{K}$$

where K is the number of judges, X_{jk} is the mean of the judges' ratings on that item, and X_j is the individual judge's rating. The AD index was calculated within each supervisor-subordinate dyad for each of the seven items of the LMX quality scale. The index was calculated as the average deviation across the seven items.

RESULTS

Preliminary Results

Descriptive statistics, internal consistencies, and bivariate correlations are reported for subordinate self-perceptions and metaperceptions in Table 3. Correlations between subordinates' self-perceptions and corresponding metaperceptions were all highly positive and statistically significant. The strongest of these associations was between openness self-perceptions and metaperceptions ($r = .78, p < .01$), whereas the weakest association was between conscientiousness self-perceptions and metaperceptions ($r = .49, p < .01$), though strongly significant. The correlation matrix providing descriptive statistics, internal consistencies, and bivariate correlations are reported for subordinate metaperceptions and supervisor impressions in Table 4. Most of these correlations were significant and in the expected direction. The strongest of these associations was for extraversion ($r = .42, p < .01$) and emotional stability ($r = .42, p < .01$). The weakest association was between openness subordinate metaperceptions and supervisor impressions ($r = .14, p > .05$), which was also the only of the five associations that was not significant. Descriptive statistics, internal consistencies, and bivariate correlations are reported for survey relational variables in Table 5. Positive and statistically significant correlations were found between most variables. Psychological closeness was strongly correlated with subordinates' and supervisors perceptions of LMX quality ($r = .62, p < .01$; $r = .33, p < .01$, respectively). Physical proximity and communication frequency were also highly correlated ($r = .57, p < .01$). The correlation between subordinates' and supervisors' perceptions of LMX quality was positive and significant ($r = .31, p < .01$). The magnitude of this association is consistent with Gerstner and Day's (1997) comprehensive meta-analysis of LMX quality, which found an uncorrected correlation of .30 between subordinate- and supervisor-reported LMX quality.

Table 3 - Correlation Matrix of Subordinate Self-Perceptions and Metaperceptions

Variable	M	SD	1	2	3	4	5	6	7	8	9	10
Self Perceptions:												
1. Extraversion	5.01	.97	(.79)									
2. Agreeableness	5.43	.84	.45**	(.78)								
3. Conscientiousness	5.70	.72	.26*	.54**	(.73)							
4. Emotional Stability	3.28	1.06	-.13	-.13	-.20	(.76)						
5. Openness	4.82	.98	.36**	.63**	.28*	-.01	(.74)					
Metaperceptions:												
6. Extraversion	5.00	1.05	.72**	.37**	.16	-.06	.43**	(.81)				
7. Agreeableness	5.23	1.02	.41**	.69**	.53**	-.09	.61**	.52**	(.81)			
8. Conscientiousness	5.44	.97	.39**	.29*	.49**	-.10	.27*	.54**	.69**	(.82)		
9. Emotional Stability	3.17	1.22	.00	-.21	-.33**	.71**	-.07	.01	-.23	-.20	(.82)	
10. Openness	4.61	.96	.42**	.48**	.16	.05	.78**	.55**	.55**	.33**	.01	(.71)

Note. N = 72. Valid listwise N = 72.

Note. Internal consistencies are in parentheses in the diagonals.

Note. *p<.05. **p<.01.

Table 4 - Correlation Matrix of Subordinate Metaperceptions and Supervisor Impressions

Variable	M	SD	1	2	3	4	5	6	7	8	9	10
Metaperceptions:												
1. Extraversion	5.00	1.05	(.81)									
2. Agreeableness	5.23	1.02	.40**	(.81)								
3. Conscientiousness	5.44	.97	.13	.63**	(.82)							
4. Emotional Stability	3.17	1.22	-.06	-.36**	-.48**	(.82)						
5. Openness	4.61	.96	.51**	.30*	.09	.06	(.71)					
Impressions:												
6. Extraversion	5.00	.96	.42**	.29*	.12	.02	.17	(.78)				
7. Agreeableness	5.45	.89	.11	.37**	.24*	.01	.02	.52**	(.77)			
8. Conscientiousness	5.85	1.08	.14	.23*	.31**	.08	.03	.54**	.68**	(.91)		
9. Emotional Stability	3.07	1.23	-.18	-.32**	-.46**	.42**	-.08	.01	-.23	-.19	(.87)	
10. Openness	4.57	.97	.24*	.21	.09	-.03	.14	.55**	.55**	.33*	.01	(.72)

Note. N = 72. Valid listwise N = 72.

Note. Internal consistencies are in parentheses in the diagonals.

Note. *p<.05. **p<.01.

Table 5 - Correlation Matrix of Survey Relational Variables

Variable	M	SD	1	2	3	4	5
Subordinate:							
1. LMX Quality	5.70	1.09	(.91)				
2. Communication Frequency	5.76	1.31	.27*	(.86)			
3. Physical Proximity	4.57	1.27	-.02	.57**	--		
4. Psychological Closeness	4.49	1.27	.62**	.39**	.20	(.92)	
Supervisor:							
5. LMX Quality	6.13	.65	.31**	.14	.10	.33**	(.82)

Note. N = 72. Valid listwise N = 71.

Note. Internal consistencies are in parentheses in the diagonals.

Note. *p<.05. **p<.01.

Tests of Hypotheses

Each hypothesis was tested with separate tests for each of the five personality factors (extraversion, openness, agreeableness, conscientiousness, emotional stability), with support for hypotheses indicated by at least one significant test. In Hypotheses 1- 4, communication frequency, physical proximity, psychological closeness, and trait visibility were proposed as antecedents of subordinate meta-accuracy. Hypotheses 1 – 4 were tested using multivariate analysis of covariance (MANCOVA), with communication frequency, physical proximity, psychological closeness, and trait visibility serving as the continuous predictors. Subordinates' metaperceptions and corresponding supervisors' impressions served as the dependent variables. With MANCOVA, predictors are examined to determine whether each accounts for statistically significant variation in the combination of the dependent variables (Tabachnick & Fidell, 2007). As such, statistical significance indicates that the predictor accounts for variance in the linear combination of the dependent variables, by which congruence between the dependent variables is observed. This congruence between subordinates' metaperceptions and supervisors' impressions indicates subordinate meta-accuracy. Therefore, the multivariate analysis represents

a test of whether the predictors of interest relate to subordinate meta-accuracy. Wilks' λ was used to determine statistical significance of predictors. Edwards (1995) advised the use of the Wilks' statistic for analyses in which congruence (e.g., meta-accuracy; self-other agreement) is examined as an outcome variable. Wilks' λ indicates the ratio of error variance to total variance for each variate, in which smaller values represent greater effect sizes (Field, 2005).

In Hypotheses 1 – 4, communication frequency, physical proximity, psychological closeness, and trait visibility were proposed as antecedents of subordinate meta-accuracy, respectively. Communication frequency did not significantly predict meta-accuracy for any of the five personality factors. Thus, Hypothesis 1 was not supported. Due to the limited statistical power and the moderate to large correlations among predictors (Tabachnick & Fidell, 2007), an examination of relative effect sizes is appropriate. Cohen (1969, 1988) identified eta squared values of .01, .06, and .14 as small, medium, and large effects. Modest effects were found for agreeableness (partial $\eta^2 = .04$) and extraversion meta-accuracy (partial $\eta^2 = .03$), though not statistically significant. Hypothesis 2 was supported for conscientiousness and agreeableness meta-accuracy. Physical proximity was a significant predictor of meta-accuracy regarding conscientiousness ($\lambda = .90, p < .05$; partial $\eta^2 = .10$) and agreeableness ($\lambda = .85, p < .01$; partial $\eta^2 = .15$). Modest effects were found for openness (partial $\eta^2 = .07$) and emotional stability meta-accuracy (partial $\eta^2 = .03$), though not statistically significant. Results for communication frequency and physical proximity are presented in Table 6.

Table 6 - Multivariate Analysis of Covariance: Predictors of Meta-Accuracy (Hypotheses 1 – 2)

Independent Variable	Wilks' λ	Multivariate F	P	<i>Eta-squared</i>
Communication Frequency:				
Extraversion	.97	1.12	.33	.03
Agreeableness	.96	1.26	.29	.04
Conscientiousness	1.0	.13	.88	.00
Openness	.97	.96	.39	.03
Emotional Stability	.99	.40	.67	.01
Physical Proximity:				
Extraversion	.99	.31	.74	.01
Agreeableness	.85	5.61**	<.01	.15
Conscientiousness	.90	3.47*	<.05	.10
Openness	.93	2.37	.10	.07
Emotional Stability	.97	1.06	.35	.03

Note. * $p < .05$. ** $p < .01$.

Note. $df = 2, 64$; except for Agreeableness ($df = 2, 63$). $N = 72$. Valid listwise $N = 70$.

Psychological closeness did not significantly predict meta-accuracy for any of the five personality factors. Thus, Hypothesis 3 was not supported. Modest effects were found for extraversion (partial $\eta^2 = .05$), openness (partial $\eta^2 = .04$), agreeableness (partial $\eta^2 = .04$), and conscientiousness (partial $\eta^2 = .03$), though not statistically significant. Hypothesis 4 was supported for extraversion, conscientiousness, and emotional stability meta-accuracy. Trait visibility was a significant predictor of meta-accuracy regarding extraversion ($\lambda = .91, p < .05$; partial $\eta^2 = .10$), conscientiousness ($\lambda = .91, p < .05$; partial $\eta^2 = .09$), and emotional stability ($\lambda = .88, p < .05$; partial $\eta^2 = .12$). Modest effects were found for openness (partial $\eta^2 = .05$) and

agreeableness (partial $\eta^2 = .03$) meta-accuracy, though not statistically significant. Results for psychological closeness and trait visibility are presented in Table 7. Taken together, these results establish physical proximity and trait visibility as significant predictors of meta-accuracy.

Table 7 - Multivariate Analysis of Covariance: Predictors of Meta-Accuracy (Hyp.s 3 – 4; 8)

Independent Variable	Wilks' λ	Multivariate F	P	<i>Eta-Squared</i>
Psychological Closeness:				
Extraversion	.95	1.54	.22	.05
Agreeableness	.97	1.16	.42	.04
Conscientiousness	.97	1.13	.33	.03
Openness	.96	1.25	.29	.04
Emotional Stability	.99	.44	.35	.01
Trait Visibility:				
Extraversion	.91	3.38*	<.05	.10
Agreeableness	.97	1.16	.42	.03
Conscientiousness	.91	3.17*	<.05	.09
Openness	.96	1.50	.23	.05
Emotional Stability	.88	4.48*	<.05	.12
LMX Agreement				
Extraversion	.97	1.03	.37	.03
Agreeableness	.97	1.11	.34	.03
Conscientiousness	.88	4.42*	<.05	.09
Openness	.99	.22	.80	.01
Emotional Stability	.99	.26	.77	.01

Note. * $p < .05$. ** $p < .01$. Valid listwise $N = 70$.

Hypothesis 5 proposed that subordinate- (5a) and supervisor-reported (5b) LMX quality would vary across the four categories of subordinate meta-accuracy. Hypothesis 5 was tested using analysis of variance (ANOVA). A one-way ANOVA was examined in which meta-accuracy was entered as the independent variable with four categories (i.e., accurate/good, accurate/poor, inaccurate/over estimator, inaccurate/under estimator). Subordinates' and supervisors' perceptions of LMX quality served as dependent variables in separate analyses. Hypothesis 5A was supported for conscientiousness and extraversion meta-accuracy. For subordinates' perceptions of LMX quality, mean levels of LMX quality varied significantly across categories of conscientiousness meta-accuracy, $F(3, 68) = 3.88, p = .01$. Meta-accuracy regarding extraversion was also significant, $F(3, 68) = 2.84, p = .04$. Results were not significant for meta-accuracy regarding agreeableness, openness, and emotional stability. For supervisors' perceptions of LMX quality, the results for all five factors were not significant. Thus, Hypothesis 5B was not supported. Results are reported in Table 8. Exploratory analyses were conducted utilizing the relationship length and strength between supervisors and subordinates as covariates within the tested ANCOVA models; however, relationship length and strength were not significant covariates within the tested models, and the significance levels of the tested factors did not change significantly with the presence of these covariates.

In consideration of the multi-dimensional perspective of LMX, exploratory analyses were conducted to examine potential differential effects of meta-accuracy across the four dimensions of LMX quality: affect, loyalty, contribution, and respect. Using the analyses described above, subordinates' and supervisors' perceptions of the four dimensions of LMX quality served as dependent variables in separate analyses. Meta-accuracy regarding conscientiousness was significant for the subordinate-reported Affect LMX dimension, $F(3, 68) = 2.92, p = .04$, and approached significance for the Contribution LMX dimension, $F(3, 68) = 2.23, p = .09$. That is,

subordinate perceptions of affect and contribution LMX quality varied significantly across categories of conscientiousness meta-accuracy. In contrast, subordinate perceptions of LMX quality did not vary significantly across meta-accuracy regarding extraversion, agreeableness, openness, and emotional stability meta-accuracy.

Table 8 - Analysis of Variance: Types of Meta-Accuracy (Hypotheses 5 and 7)

Independent Variable	Subordinate Perceptions		Supervisor Perceptions	
	<i>F</i>	<i>Eta-Squared</i>	<i>F</i>	<i>Eta-Squared</i>
Extraversion	2.84*	.111	.57	.025
Agreeableness	1.31	.055	.39	.017
Conscientiousness	3.88*	.146	.89	.038
Emotional Stability	.60	.026	1.01	.043
Openness	1.03	.043	.04	.002

Note. † $p < .10$. * $p < .05$.

Note. $df = 3, 68$. $N = 72$. Valid listwise $N = 71$.

Meta-accuracy regarding conscientiousness was significant for the supervisor-reported Affect, $F(3, 68) = 3.92, p = .01$, Contribution, $F(3, 68) = 3.34, p = .02$, and Professional Respect, $F(3, 68) = 4.66, p < .01$, LMX dimensions. Meta-accuracy regarding emotional stability was significant for the supervisor-reported Professional Respect LMX dimension, $F(3, 68) = 4.64, p < .01$. Meta-accuracy regarding agreeableness was approaching significance for the supervisor-reported Contribution LMX dimension, $F(3, 68) = 2.24, p = .09$. Results were not significant for extraversion and openness.

Hypothesis 6 proposed that subordinates' (6a) and supervisors' (6b) perceptions of LMX quality would vary across the four categories of subordinate meta-accuracy, from highest (accurate-high) to lowest (inaccurate-overestimator): accurate-high, inaccurate-underestimator, accurate-low, inaccurate-overestimator. Hypothesis 6 was tested using the Tukey HSD test with the proposed *a priori* contrasts. The significant statistic indicates a significant mean difference between the two meta-accuracy categories being compared, providing support for the proposed hypothesis. As stated above, mean levels of subordinate-reported LMX quality varied significantly across categories of conscientiousness meta-accuracy, $F(3, 68) = 3.88, p = .01$, and extraversion, $F(3, 68) = 2.84, p = .04$. For meta-accuracy regarding conscientiousness, the difference between accurate-low ($M = 5.2$) and inaccurate-overestimator ($M = 6.2$) was significant ($p < .05$). That is, subordinates within the inaccurate-overestimator category tended to report higher levels of LMX quality relative to those within the accurate-low category. The direction of the difference did not support the hypothesis. The difference between accurate-low ($M = 5.2$) and accurate-high ($M = 6.1$) was also approaching significance ($p < .05$). That is, subordinates within the accurate-high category tended to report higher levels of LMX quality relative to those within the accurate-low category. The direction of the difference supported the hypothesis. For the remaining factors, there were no significant mean differences between categories. Thus, Hypothesis 6A received very limited support. Results for conscientiousness meta-accuracy are presented in Table 9. For supervisors' perceptions of LMX quality, there were no significant mean differences across levels of meta-accuracy. Thus, Hypothesis 6B was not supported. As noted above, there was not a significant main effect for meta-accuracy in relation to supervisors' perceptions of LMX quality. Taken together, these results suggest that perceptions of LMX quality varied only slightly across categories of meta-accuracy.

Hypothesis 7 proposed that subordinate meta-accuracy regarding conscientiousness would exhibit the greatest impact upon subordinates' (7a) and supervisors' (7b) perceptions of LMX quality, relative to the other four factors of the Big 5. Hypothesis 7 was tested through an examination of the magnitude of effect sizes for all five independent variables in relation to one another. The effect size (η^2) is based on sums of squares from the sample and provides an estimate of the between-group effect in relation to the total amount of variance (Field, 2005). In examination of the respective effect sizes, meta-accuracy regarding conscientiousness yielded the greatest effect sizes (η^2) for subordinates' perceptions of LMX quality, relative to the other four factors of the Big 5. For subordinate perceptions of LMX quality, the order of relative importance was: conscientiousness ($\eta^2 = .146$), extraversion ($\eta^2 = .111$), agreeableness ($\eta^2 = .055$), openness ($\eta^2 = .043$), and emotional stability ($\eta^2 = .026$). Thus, Hypothesis 7a was supported. Conscientiousness meta-accuracy accounted for approximately 38% of the explained variance in subordinate perceptions of LMX quality. In examination of the respective effect sizes, meta-accuracy regarding emotional stability yielded the greatest effect sizes for supervisors' perceptions of LMX quality, relative to the other four factors of the Big 5. For supervisor perceptions of LMX quality, the order of relative importance was: emotional stability ($\eta^2 = .043$), conscientiousness ($\eta^2 = .038$), extraversion ($\eta^2 = .025$), agreeableness ($\eta^2 = .017$), and openness ($\eta^2 = .002$). Thus, Hypothesis 7b was not supported. Conscientiousness meta-accuracy did account for approximately 30% of the explained variance in supervisor perceptions of LMX quality, relative to the other personality factors. Results are reported in Table 7.

Hypothesis 8 proposed that subordinate meta-accuracy would positively relate to agreement between subordinates' and corresponding supervisors' perceptions of LMX quality. The absolute value difference score was calculated for each supervisor-subordinate pair's perceptions of LMX quality. Hypothesis 8 was supported for conscientiousness meta-accuracy.

Supervisor-subordinate LMX agreement was significantly associated with meta-accuracy regarding conscientiousness ($\lambda = .88, p < .05; \eta^2 = .09$). That is, subordinates with greater conscientiousness meta-accuracy tended to also have greater agreement with their supervisors in their perceptions of LMX quality, and vice-versa. Supervisor-subordinate LMX agreement was not a significant predictor of meta-accuracy regarding the remaining factors. An overview of support for hypotheses is presented in Appendix H. The significant factors within meta-accuracy are identified in relation to each hypothesis.

Table 9 - Subordinate LMX Perceptions across Conscientiousness Meta-Accuracy Levels (Hypothesis 6a)

Meta-Accuracy Level	Subordinate Perceptions		Supervisor Perceptions	
	M	SD	M	SD
Accurate-High	6.06	.92	6.33	.55
Inaccurate-Overestimator	6.26	.50	6.15	.55
Accurate-Low	5.20	1.23	6.02	.63
Inaccurate-Underestimator	5.59	1.07	6.04	.82

Exploratory Analysis

Supervisor and subordinate gender was examined in relation to metaperceptions, impressions, and perceptions of LMX quality. There are two primary reasons for such exploratory analyses. First, there was a distinct disparity between gender proportionality across the supervisor and subordinate samples in the present study, with the majority of supervisors male and the majority of subordinates female. Second, sociological and psychological theoretical frameworks have emphasized specific gender roles within our society, and as such, testing for gender differences within the present study is warranted. Gender roles refer to expectations and

beliefs about how members of a particular gender should behave (Cialdini & Trost, 1998). Female gender roles include the expectation of nurturing behaviors, such as helping and being concerned for others, whereas male gender roles are center upon restricted emotionality and competition (Amanatullah & Morris, 2010). Such differences in gender roles may have implications for the expectations and perceptions of men and women.

Independent samples t-tests were performed, examining gender differences within subordinate metaperceptions, supervisor impressions, and perceptions of LMX quality. Agreeableness metaperceptions differed significantly across gender, with females ($M = 5.41$) holding significantly higher metaperceptions in comparison to males ($M = 4.81$), $t(69) = 2.31$, $p < .05$ (two-tailed). There were no other significant gender differences across the other four personality factors for subordinates' metaperceptions. No significant gender differences were observed across supervisors' impressions of subordinates. Moreover, supervisors' and subordinates' perceptions of LMX quality did not differ significantly across gender. Implications of these results are discussed with regard to future research directions.

DISCUSSION

Summary of Purpose and Major Findings

The results of the present study suggest that dyadic meta-accuracy may be an important relational variable to consider within organizational settings. The present results establish an initial nomological network of subordinate meta-accuracy within subordinate-supervisor relationships. Subordinates with work spaces closer to those of their supervisors tended to display greater accuracy in judging their supervisors' impressions. In addition, subordinates displayed greater meta-accuracy for traits that were judged to be more observable in others. Regarding outcomes, whether subordinates were accurate in judging supervisors' impressions was shown to be associated with subordinates' and supervisors' perceptions of LMX quality. In short, the present results have contributed to both the metaperception and LMX literatures by demonstrating the role of social cognition within organizational settings.

Meta-accuracy was examined within the current study as a multi-dimensional construct that included the five personality factors of the Big Five personality traits. A rather consistent result of these analyses showed conscientiousness and (to a lesser extent) agreeableness to be the factors in which meta-accuracy was most important. Taken together, these results suggest that meta-accuracy regarding conscientiousness and agreeableness are important variables to consider within working relationships. The results concerning conscientiousness are not surprising. Conscientiousness has been demonstrated as the strongest predictor of general job performance among personality factors (e.g., Schmidt & Hunter, 1998), and as such, has been established as an important variable within supervisor-subordinate relations and within the larger organizational context.

Though agreeableness has not been established as a strong predictor of job performance, recent research has aided in our understanding of its place within the work context. For instance,

Livingston, Judge, and Hurst's (2011) recent research established an association between agreeableness and employees' earnings at work. The results of their study suggest that disagreeable employees tend to earn more relative to agreeable employees. This is especially probable for male employees. Other recent research has established that more agreeable employees are more satisfied in their jobs and perform more organizational citizenship behaviors (i.e., positive extra-role behaviors; Chiaburu, Oh, Berry, Li, & Gardner, 2011; Ilies, Fulmer, Spitzmuller, & Johnson, 2009). This recent empirical evidence, in conjunction with the present study's results, suggests that this personality factor plays an important role within supervisor-subordinate working relationships. Finally, extraversion played a significant role within the observed associations between antecedents and outcomes of subordinate meta-accuracy to a certain extent. Previous research has established linkages between extraversion and organizational constructs (e.g., job satisfaction, job performance) that is especially true within socially-oriented occupations, such as salespersons (e.g., Bruk-Lee, Khoury, Nixon, Goh, & Spector, 2009; Schmidt & Hunter, 1998). An additional consideration regarding trait importance concerns the type of work in which one is engaged. The present study provided for a diverse sample of occupation classes, including high frequencies of administrative support and service positions, as well as professional and managerial occupations.

The association between subordinate meta-accuracy and subordinates' and supervisors' perceptions of LMX quality yield additional implications. Though supervisors' perceptions of LMX quality did not vary significantly across the categories of subordinate meta-accuracy, their perceptions regarding specific components of the exchange relationship *did* significantly vary in several cases. The results concerning the multi-dimensional nature of LMX quality provide for a more nuanced view of the relationship between meta-accuracy and relational quality between subordinates and supervisors. Though subordinate meta-accuracy regarding conscientiousness

was not significantly associated with supervisors' perceptions of LMX quality, supervisors' perceptions of affect, contribution, and respect within the LMX relationship were associated with meta-accuracy regarding conscientiousness. Fewer significant differences were found with regard to subordinates' perceptions on the multi-dimensional LMX measure, as significant results were only found for meta-accuracy regarding conscientiousness.

Taken together these results suggest supervisors may differentiate across dimensions of LMX quality, and more so relative to subordinates. There are two implications worth noting with regard to these findings. First, supervisors and subordinates appear to view their working relationships with one another differently. Supervisors may take more factors into account in judging the quality of their working relationships with their subordinates. Moreover, subordinates appear to hold a more generalized, or unified, view of relationship quality with their supervisors. A second consideration concerns the methodological assessment of LMX quality. These results suggest that supervisors may view the two common measures of LMX quality differently from one another. Specifically, the components assessed within the multi-dimensional measure may not be one and the same with the assessment of LMX quality as a single dimension. This is evidenced by the differential relationships established between meta-accuracy and these two measures of LMX quality.

An additional implication concerns the associations between supervisors' impressions and subordinates' self-perceptions and metaperceptions. As established in previous research (e.g., Kenny & DePaulo, 1993), self-perceptions and metaperceptions correlated strongly. Such associations provide support for the symbolic interactionist (Cooley, 1902; Mead, 1934) and self-perception theoretical frameworks (Bem, 1967). However, the correlational approach of this study makes it impossible to establish causality in either direction. Both frameworks propose strong relationships between self-perceptions and metaperceptions, but differ in the proposed

direction of causality. The symbolic interactionist view posits metaperceptions as the driving force, whereas self-perception theory proposes self-perceptions as the causal mechanism. Interestingly, openness self-perceptions and metaperceptions yielded the strongest association, and openness metaperceptions were least accurate across subordinates. In fact, the association between openness metaperceptions and supervisors' impressions of openness was small in magnitude and not significant. These associations suggest that subordinates are less accurate in their metaperceptions when they are less willing to deviate from their own self-perceptions.

Finally, there are interesting findings with regard to the intercorrelations among ratings of the personality factors. Specifically, ratings of emotional stability yielded associations with the other personality dimensions that were smaller in magnitude, relative to the generally moderate and positive correlations observed among the other dimensions. This result was consistent across subordinates' self-perceptions and metaperceptions, as well as supervisors' impressions. Recent research has indicated small to moderate correlations between emotional stability and the other four factors (e.g., Mount, Barrick, Scullen, & Rounds, 2005). It may be interesting to look at the importance of scale selection in the observation of intercorrelations among the Big Five factors, as the present study utilized a distinct measure of the Big Five. Another point concerns the intercorrelations between supervisor impressions across the Big 5 personality dimensions. Halo bias refers to the tendency for a supervisor to rate his or her subordinate high or low across dimensions based upon the supervisor's general impression of the subordinate (Lance, LaPointe, & Stewart, 1994). In the present study, moderate to large positive correlations were found between supervisors' impressions across the personality dimensions. Such findings may extend the concept of halo bias beyond performance ratings, and future research may examine the potential for a general factor within supervisor ratings of personality. Indeed, recent research has

established initial support for a general factor of personality (e.g., Rushton & Irwing, 2008; Van der Linden, Te Nijenhuis, & Bakker, 2010).

Research Strengths and Limitations

There are several strengths of the present research, including theoretical, methodological, and analytical components. A particular theoretical strength of the current paper is that it extends beyond previous research that has theorized about and examined meta-accuracy as a general construct with broad-based outcomes. In the present context of work organizations, meta-accuracy within a particular type of relationship is examined in relation to antecedents and outcomes that are directly representative of the relationship itself. An important methodological and theoretical strength of the present study involves the introduction of categorization to the meta-accuracy construct. Within this perspective, accuracy is not viewed only in a linear fashion but in a manner that distinguishes *within* levels of accuracy and inaccuracy. This conceptualization provides both a theoretical and methodological contribution to the metaperceptions literature. This theoretical framework has important implications for the manner in which propositions are rationalized with regard to meta-accuracy. The theoretical framework introduced here allows for a more nuanced interpretation of meta-accuracy that goes beyond the simplistic linear conceptualization of meta-accuracy in the formation of propositions concerning its outcomes. Previous empirical examinations (e.g., Carlson & Furr, 2009; Kenny & DePaulo, 1993) have not examined the accuracy (and inaccuracy) of metaperceptions in this light.

Additional methodological and analytic strengths of the present research are found in the measurement and analysis of congruence. Measurement and analysis of congruence included meta-accuracy and agreement between supervisors' and subordinates' perceptions of LMX quality. Drawing on methodological advancements within organizational behavior research, the present research followed recommendations from Edwards (1994, 1995) concerning the

computation and analysis of congruence variables. The analytic procedure followed in the present research enables a more valid test of hypotheses that propose congruence variables as outcome variables. Meta-accuracy represents congruence between subordinates' metaperceptions and supervisors' impressions, and was proposed as an outcome variable within the present theoretical framework. As such, fewer methodological concerns arise in the testing of such propositions.

The utilization of the average deviation (AD) index in the computation of agreement, or congruence, between subordinates' and supervisors' perceptions of LMX quality represents an additional methodological strength. The AD index provides for a more psychometrically sound assessment of congruence, relative to other congruence indices, including algebraic difference scores, squared difference scores, absolute difference scores, standard deviation, r_{wg} , and the $|D|$ statistic. Researchers (e.g., Edwards, 1994, 1995; LeBreton & Senter, 2008) have illustrated the psychometric weaknesses of these earlier indices that include reduced interpretability of the component measures, confounded effects, statistical artifacts due to sample size and item number, and reduced reliability. The AD index provides strengths in its appropriateness within the present research, in that it allows for an estimation of agreement in the scale's original metric and the utilization of interval scales for measurement. Taken together, the present research provides a strong record in the measurement and analysis of the focal congruence constructs. A final methodological strength involves the use of multiple sources in the assessment of constructs within the present model. The inclusion of both subordinates' and supervisors' perceptions of LMX quality reduces research limitations associated with common method variance. Moreover, as discussed above, theoretical considerations have been identified through this framework in the way in which supervisor and subordinate differentially view the quality of the working relationship between one another.

There are several limitations within the present study that yield caution when interpreting these results. A larger sample size would facilitate greater power in detecting smaller relationship effect sizes. Moreover, cases within the population of interest that are less common, such as virtual working relationships between subordinates and supervisors, would be expressed in greater quantities within larger samples. In addition, the small sample size made it impossible to test for differential relationships based on occupational classes. However, the present study allowed for a diverse distribution of positions within the sample.

An additional methodological limitation involves the usage of median splits in variable computation. The use of median splits has been subjected to criticism on several grounds, including reduction of variance and decreased power for statistical analyses (Aiken & West, 1991; Cohen, 1983; Maxwell & Delaney, 1993). Several points are made in justifying the use of the median split for the calculation of subordinate meta-accuracy in the present study. First, previous arguments concerning median splits have focused on the *dichotomization* of quantitative variables, whereas the proposed study utilized two variables to create four (rather than two) levels of the meta-accuracy variable. Moreover, the approach that was used in the present study to categorize subordinates based on their level of meta-accuracy coincided with the use of Yammarino and Atwater's (1997) conceptual framework of agreement, which serves as theoretical justification for Hypotheses 5 and 6. In addition, the procedure that was used for variable transformation in the present study is borrowed from a recently published empirical article (e.g., Cogliser et al., 2009). In addition and as stated above, other congruence indices (e.g., raw difference scores, absolute difference scores) have been criticized due to questionable reliability and other psychometric properties (e.g., Edwards, 1994, 1995).

A final weakness of the present research involves the testing of Hypothesis 4 that proposes an association between trait visibility and meta-accuracy. Because of the structure and

layout of the variables, a direct test of this relationship was not possible. The initial test of this hypothesis provided only a partial examination of the actual relationship. Specifically, extraversion, conscientiousness, and emotional stability visibility were associated with corresponding levels of meta-accuracy. The implications were only that for dyads in which supervisors believe these traits to be more visible, subordinates tended to have greater meta-accuracy.

Future Research

The present research represents an initial examination of meta-accuracy within an organizational context, focusing primarily upon the relationship between supervisors and subordinates. Additional research should be directed toward examining supervisor meta-accuracy, in addition to subordinate meta-accuracy. Such examinations may focus upon leader emergence and effectiveness in relation to the degree to which supervisors are accurate in identifying the impressions they are making upon their subordinates. It may be interesting to see how effective leaders utilize such accurate metaperceptions in their associations with followers. Previous research suggests that effective leaders and emergent leaders may have greater social perceptiveness, represented by the awareness of others' expectations, within group settings (Zaccaro, Foti, & Kenny, 1991). The introduction of meta-accuracy within such a framework may yield a greater understanding of the role of social cognition within leader development and emergence.

An additional avenue for future research concerns communication frequency and physical proximity. The theoretical and empirical support concerning physical proximity between supervisor and subordinate work spaces, along with communication frequency within the dyad, as predictors of meta-accuracy provide a strong rationale for their roles within the development of accurate subordinate metaperceptions. The theoretical rationale for this association depends

heavily upon the frequency with which nonverbal cues are available to subordinates in the formation of their metaperceptions. Those supervisors and subordinates who are more physically close to one another in their workspaces and communicate more frequently should have greater accessibility to nonverbal cues through face-to-face interaction (e.g., Burgoon et al., 1987). But the extant digital age signifies the increasing frequency with which individuals interact via virtual media. Such supervisor-subordinate interactions should be taken into account in consideration of the relationship between communication frequency, physical proximity, and meta-accuracy. For example, Döring and Pöschl's (2009) research illustrated the importance of nonverbal cues within computer-mediated communication (i.e., electronic mail, text messaging) in determining individuals' impressions of one another. Their research suggests that nonverbal cues may be present within such forms of computer-mediated communication. An important nonverbal cue that may be extracted from electronic mail communication involves delays between communications. Such delays between the computer-mediated communication of supervisors and subordinates may play a role in the development of metaperceptions. For example, a subordinate may interpret a longer-than-usual delay in his or her supervisor's response as an indication of the supervisor's feelings toward him or her. As such, additional research should address the role of these nonverbal forms of communication. Moreover, research should be directed toward the strategies subordinates employ in ascertaining cues concerning supervisors' impressions through computer-mediated communication.

A third consideration for future research concerns the focal traits that are studied. The clear trend evident within the present study's findings points to the importance of the personality factors conscientiousness and agreeableness, relative to the other facets of the Big 5. The majority of significant findings across hypothesis tests indicate that meta-accuracy concerning these two personality factors is most relevant within organizational contexts and specifically the

supervisor-subordinate relationship. Additional research should examine whether conscientiousness and agreeableness are the most important factors when examining the association between relational antecedents and dyadic meta-accuracy. Additional relationships within organizational settings may emphasize different personality facets with regard to meta-accuracy. Would the associations demonstrated within the present research hold within coworker relationships? Within working relationships and departmental climates in which interdependence is emphasized, conscientiousness may indeed garner greater relative importance. In other organizational settings, though, individuals may rely upon meta-accuracy regarding other personality factors to successfully integrate and perform within their work settings. These points may also be carried over to other settings and within different relationship types (e.g., marital dyads, peers).

Another potential avenue for future research should address the importance of gender roles within organizational studies of meta-accuracy. Previous research has addressed potential gender differences within performance ratings. Rater gender has not affected performance ratings in previous empirical examinations (e.g., Pulakos, Schmitt, & Chan, 1996). However, there has been empirical evidence suggesting that ratee gender may influence supervisory ratings (e.g., Sackett, DuBois, & Noe, 1991). For example, Sackett et al. (1991) found the proportion of females within the work group to influence the ratings females received. Though the present research found few differences between men and women across metaperceptions, impressions, and perceptions of LMX quality, additional research should address the potential role of gender within supervisor-subordinate dyads.

A revised theoretical model is presented in Figure 3. The model takes the present results into account in the revision of propositions. In addition, the above discussion of implications and future research are considered. The revised model specifies the role of trait importance within

relationships between meta-accuracy and its antecedents and outcomes. In addition, LMX dimensionality is specified as a moderator of the relationship between meta-accuracy and LMX quality. Finally, nonverbal cues are specified as a mediator of the relationship between meta-accuracy and both physical proximity and communication frequency. The revised, testable model provides guidance for future research, based upon the results of the current study and the suggested future research directions.

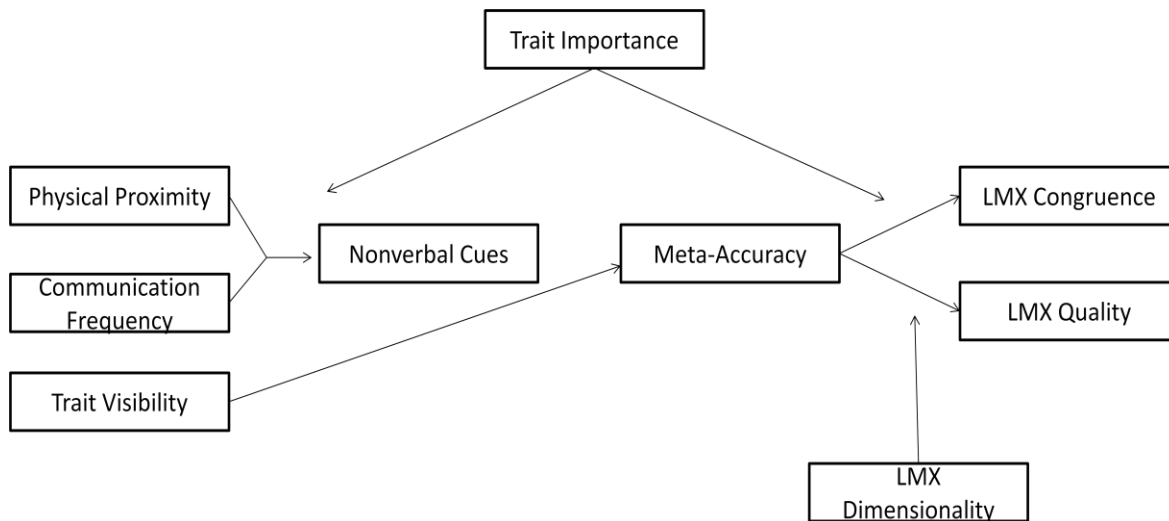


Figure 3 – Revised Theoretical Model

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APPENDIX A

COMMUNICATION FREQUENCY (SUBORDINATE-REPORTED)

Directions: Please answer the following questions regarding your interactions with your supervisor. [Response Format: 1 (once or twice in the last 6 months), 2 (once or twice every 1 – 3 months) 3 (once or twice every month), 4 (once or twice every week), 5 (3-5 times every week), 6 (once or twice every day), 7 (many times daily)]

1. How frequently does your supervisor initiate work-related interaction with you?
2. How frequently do you initiate work-related interaction with your supervisor?
3. How frequently do you interact with your supervisor at work?
4. How frequently do you interact with this person informally or socially at work?

APPENDIX B

INTERPERSONAL SOLIDARITY SCALE (SUBORDINATE-RATED PSYCHOLOGICAL CLOSENESS)

Directions: Please indicate your degree of agreement with the following statements concerning how close you are with your supervisor. [Response Format: 1 (Strongly Disagree) – 7 (Strongly Agree)]

**Items retained in the final measure.*

1. We are very close to each other.*
2. This person has a great deal of influence over my behavior.*
3. I trust this person completely.*
4. We feel very differently about most things. (Reversed)
5. I willingly disclose a great deal of positive and negative things about myself, honestly and fully (in depth) to this person.*
6. We do not really understand each other. (Reversed)
7. This person willingly discloses a great deal of positive and negative things about himself or herself honestly and fully (in depth) to me.*
8. I distrust this person. (Reversed)
9. I like this person much more than most people I know.*
10. I seldom interact – communicate with this person. (Reversed)
11. I love this person.*
12. I understand this person and who he or she really is.
13. I dislike this person. (Reversed)
14. I interact – communicate with this person much more than with most people I know.*
15. We are not very close at all. (Reversed)

16. We share a lot in common.*
17. We do a lot of helpful things for each other.*
18. I have little in common with this person. (Reversed)
19. I feel very close to this person.*
20. We share some private ways of communicating with each other.*

APPENDIX C

LMX 7 SCALE (SUBORDINATE PERCEPTIONS)

Directions: Please respond to the following statements concerning your working relationship with your supervisor. [Response Format: 1 (Strongly Disagree) – 7 (Strongly Agree)]

1. My working relationship with my supervisor is very effective.
2. I always know how satisfied my supervisor is with what I do.
3. My supervisor would use his/her power to help me solve work-related problems.
4. I always know where I stand with my supervisor.
5. My supervisor understands my job problems and needs.
6. My supervisor recognizes my potential well.
7. My supervisor would “bail me out” at his/her expense.

APPENDIX D

LMX MULTIDIMENSIONAL MEASUREMENT (MDM) SCALE (SUBORDINATE PERCEPTIONS)

Directions: Please respond to the following statements concerning your working relationship with your supervisor.

[Response Format: 1 (Do Not Agree at All) – 7 (Agree Completely)]

1. I like my supervisor very much as a person. (Affect)
2. My supervisor is the kind of person one would like to have as a friend. (Affect)
3. My supervisor is a lot of fun to work with. (Affect)
4. My supervisor defends my work actions to a superior, even without complete knowledge of the issue in question. (Loyalty)
5. My supervisor would come to my defense if I were “attacked” by others. (Loyalty)
6. My supervisor would defend me to others in the organization if I made an honest mistake (Loyalty)
7. I do work for my supervisor that goes beyond what is specified in my job description. (Contribution)
8. I am willing to apply extra efforts, beyond those normally required, to further the interests of my work group. (Contribution)
9. I do not mind working my hardest for my supervisor. (Contribution)
10. I am impressed with my supervisor’s knowledge of his/her job. (Professional Respect)
11. I respect my supervisor’s knowledge of and competence on the job. (Professional Respect)
12. I admire my supervisor’s professional skills. (Professional Respect)

APPENDIX E

TRAIT VISIBILITY (SUPERVISOR-RATED)

Directions: How difficult or easy would it be to judge the degree to which another person had this trait? [Response Format: 1 (Quite Difficult) – 9 (Quite Easy)]

1. Warmth
2. Gregariousness
3. Assertiveness
4. Activity
5. Excitement Seeking
6. Positive Emotions
7. Trust
8. Straightforwardness
9. Altruism
10. Compliance
11. Modesty
12. Tender-Mindedness
13. Competence
14. Order
15. Dutifulness
16. Achievement Striving
17. Self-Discipline
18. Deliberation
19. Anxiety
20. Hostility
21. Depression
22. Self-Consciousness
23. Impulsiveness
24. Vulnerability
25. Fantasy
26. Aesthetics
27. Feelings
28. Actions
29. Ideas
30. Values

APPENDIX F

LMX 7 SCALE (SUBORDINATE PERCEPTIONS)

Directions: Please respond to the following statements concerning your working relationship with your subordinate. [Response Format: 1 (Strongly Disagree) – 7 (Strongly Agree)]

1. My working relationship with this subordinate is very effective.
2. This subordinate always knows how satisfied I am with what he or she does.
3. I would use my power to help this subordinate solve work-related problems.
4. This subordinate always knows where he or she stands with me.
5. I understand this subordinate's job problems and needs.
6. I recognize this subordinate's potential well.
7. I would "bail out" this subordinate at my expense.

APPENDIX G

LMX MULTIDIMENSIONAL MEASUREMENT (MDM) SCALE (SUBORDINATE PERCEPTIONS)

LMX Multidimensional Measurement (MDM) Scale (Subordinate Perceptions)

Directions: Please indicate the degree to which you agree with each of the following statements regarding your relationship with your employee.

[Response Format: 1 (Do Not Agree at All) – 7 (Agree Completely)]

1. I like my subordinate very much as a person. (Affect)
2. My subordinate is the kind of person one would like to have as a friend. (Affect)
3. My subordinate is a lot of fun to work with. (Affect)
4. My subordinate defends my decisions, even without complete knowledge of the issue in question. (Loyalty)
5. My subordinate would come to my defense if I were 'attacked' by others. (Loyalty)
6. My subordinate would defend me to others in the organization if I made an honest mistake. (Loyalty)
7. I provide support and resources for my subordinate that goes beyond what is specified in my job description. (Contribution)
8. I am willing to apply extra efforts, beyond those normally required, to help my subordinate meet his or her work goals. (Contribution)
9. I do not mind working my hardest for my subordinate. (Contribution)
10. I am impressed with my subordinate's knowledge of his/her job. (Professional Respect)
11. I respect my subordinate's knowledge of and competence on the job. (Professional Respect)
12. I admire my subordinate's professional skills. (Professional Respect)

APPENDIX H

OVERVIEW OF SUPPORT FOR HYPOTHESES

H:	Supported?	Significant Factors	Predictor	DV
1	Not Supported		Communication Frequency	Meta-Accuracy
2	Supported	Conscientiousness, Agreeableness	Physical Proximity	Meta-Accuracy
3	Not Supported		Psychological Closeness	Meta-Accuracy
4	Supported	Extraversion, Conscientiousness, Emotional Stability	Trait Visibility	Meta-Accuracy
5A	Supported	Conscientiousness, Extraversion	Meta-Accuracy	LMX Quality
5B	Not Supported		Meta-Accuracy	LMX Quality
6A	Limited Support	Conscientiousness	Meta-Accuracy	LMX Quality
6B	Not Supported		Meta-Accuracy	LMX Quality
7A	Supported	Conscientiousness		
7B	Not Supported			
8	Supported	Conscientiousness	LMX Agreement	Meta-Accuracy

VITA

Jared LeDoux was born in Kinder, Louisiana, to James LeDoux and the late Jennifer Manuel LeDoux. His mother passed away on May 20, 1996. He graduated from Kinder High School in 2001 and received a Bachelor of Science degree in psychology in 2005, from McNeese State University. He completed one year of graduate studies at the University of Tennessee and one year of graduate studies at McNeese State University before enrolling in the Industrial-Organizational Psychology Program at Louisiana State University (LSU) in 2007. He is currently a Human Resources Analyst with the General Health System in Baton Rouge, Louisiana.

He has made presentations at a number of conferences, including the Society for Industrial and Organizational Psychology annual conference, the Southwestern Psychological Association annual conference, the Industrial Organizational/Organizational Behavior graduate student conference, and the Southeastern Association for Education Studies annual conference. He has published work in the Social Psychology of Education Journal and the Small Group Research Journal, and in the Work and Aging Handbook. His primary research and practical interests include metaperceptions and meta-accuracy, personnel selection test development and validation, and Leader-Member Exchange Theory.

He has two children, Cameron Allen LeDoux and Carson Dean LeDoux, who reside with him in Baton Rouge, Louisiana.