

LEADERSHIP INFLUENCE TACTICS IN PROJECT TEAMS:
A MULTILEVEL SOCIAL RELATIONS ANALYSIS

BY

KEVIN M. MULLANEY

DISSERTATION

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Doctoral Committee:

Associate Professor Daniel A. Newman, Chair
Professor Emeritus Charles L. Hulin
Professor Fritz Drasgow
Professor Brent W. Roberts
Professor R. Chris Fraley

ABSTRACT

This study employs a round robin network design and Social Relations Analysis to assess interpersonal influence tactic use at both the individual and dyadic levels of analysis. In student project teams, the proportion of variance due to each component (agent and target effects at the individual level and relationship effects at the dyadic level) is estimated for each of 9 influence tactics (Rational Persuasion, Consultation, Inspirational Appeal, Ingratiation, Exchange, Personal Appeals, Legitimizing, Coalitions, and Pressure). Next, the relationships of both Big 5 personality traits and attachment styles with individual level agent and target effects of influence tactic use are assessed. On the dyadic level, interpersonal complementarity is tested as a predictor of dyadic influence tactic use. Finally, a reciprocal relationship between Leader Member Exchange relationships and influence tactics is estimated. Results show a surprising amount of target variance across influence tactics and suggest several interesting relations between influence tactics and the Big 5 traits of both the senders and receivers of influence. The reciprocal relationship between LMX and influence tactic use is supported, but there was no evidence that interpersonal complementarity was related to dyadic influence tactic use.

Dedicated

To my friend and mentor, Pat Laughlin,
The very definition of a gentleman and a scholar
who is off exploring the next world
so that he can explain it all
when we get there.

ps

SEND
MORE
MONEY

FOREWORD

As a career naval officer, my current foray into the realm of organizational psychology is a continuation of my investigation of leadership by other means. Perhaps, then, it is fitting that my dissertation is leadership research by other means. I mean by this that I am pursuing with my research a better understanding of leadership, despite the fact that my study does not investigate participants inhabiting leadership roles. I am consciously avoiding broadly defined styles of leadership to focus instead on narrow behaviors relevant to the practice of leadership, specifically interpersonal influence tactics. In my own leadership experiences, I have learned that to accomplish big things one must master the little things, what sailors refer to as blocking and tackling (referencing the proper manipulation of a sail vice gridiron feats, though the concept applies well to both contexts). I see the employment of interpersonal influence tactics as part of the blocking and tackling of leadership. I believe more work needs to be done at this level, so this is where I have spent my energy.

Engaging leadership at the level of narrow behaviors allows one to splice together many of the strings of leadership research. Researchers have long identified initiating structure and consideration as primary leadership behaviors; investigating influence tactics allows one to consider more precisely how these broad behavioral structures are implemented and consider how these behaviors impact the follower. Trait approaches to leadership had once fallen out of favor, but have been reinvigorated with the emergence of the Big 5. My study investigates how broad traits manifest in narrow behaviors and thereby helps elucidate the relationship between traits and behaviors vital to successful leadership. Moreover, my study considers the role that target personality plays in determining influencing behavior. Leadership research has investigated the relationship between leaders and followers, but has often done so without

adequately measuring the relationship at the dyadic level. Leader or follower reports at the individual level are assumed to accurately capture the dyadic level relationship. By focusing on round robin groups vice single leader-follower dyads, I am able to partition the dyadic component of interpersonal relationships and consider the interplay between interpersonal relationships and interpersonal behavior at the appropriate level of analysis.

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CHAPTER 1: INTRODUCTION

Interpersonal influence has long been recognized as an essential element of leadership. Leadership has been defined as, "a process of social influence in which one person is able to enlist the aid and support of others in the accomplishment of a common task" (Chemers, 2000, p. 27; see similar definitions by Bennis, 1959; Fiedler, 1967; Hollander & Julian, 1969; Merton, 1969; and Yukl, 2006). This core thematic definition suggests that *interpersonal influence* is a primary social mechanism through which a leader enacts his or her leadership. Despite the essential role that influence is theorized to play in the exercise of leadership, there has been relatively little research into the psychological processes that drive specific influence behavior (Cable & Judge, 2003).

One of the most productive streams of research on influence behavior was initiated by Kipnis, Schmidt, and Wilkinson (1980), who spearheaded an empirical and inductive approach toward studying social influence (as opposed to earlier theoretical approaches that were popular at the time, e.g. French and Raven, 1959). Initially, Kipnis et al. collected critical incident reports in which people in work organizations described how they 'got their way' with someone else in their organization. From the insights garnered analyzing these reports, they generated an instrument (called the Profile of Organizational Influence Strategies; POIS; Kipnis & Schmidt, 1982) to measure the frequency with which specific influence tactics are used by various people within organizations. This original instrument has been used and refined (e.g. Yukl & Falbe, 1990, Schriesheim & Hinkin, 1990; Yukl, Chavez, & Seifert, 2005) over the last 30 years to provide a solid foundation for our theoretical understanding and measurement of the actual influence behaviors that occur in the workplace (see Yukl, Seifert, & Chavez, 2008). Given the above definition of leadership as a process of interpersonal *influence*, the growing literature on

influence tactics that has emerged from Kipnis et al.'s original work is central to our theoretical understanding of the notion of leadership itself.

Research on influence tactics has been limited, however, by the bugbear common to much research into social phenomena: levels of analysis (Roberts, Hulin, & Rousseau, 1978; Rousseau, 1985; Kenny & La Voie, 1984; Klein, Dansereau, & Hall, 1994; Klein & Kozlowski, 2000). Any interpersonal phenomenon has by definition at least two possible levels of analysis. An interpersonal interaction requires two or more individuals; thus, these interactions can be examined on the level of the individual. In interpersonal interactions, an interaction occurs between two or more people; thus, these interactions can also be examined at the dyadic level of interaction. In many cases, both the individual and the dyadic level of analysis are relevant to the phenomenon under consideration, but too often one or the other levels of analysis is ignored either in the specification of the theory, the measurement of the construct, or both (Kenny, Kashy, & Cook, 2006). In their review of the levels of analysis used in theory development and measurement in the leadership literature, Yammarino, Dionne, Chun, and Dansereau (2005) found that only 50% of the conceptual articles and chapters addressing influence tactics and only 14% of the empirical articles of influence tactics that they reviewed explicitly addressed levels of analysis in developing theory. Only 29% of the studies of influence tactics that they reviewed measured levels of analysis appropriately and consistently with the stated theory. Importantly, the studies that measured levels of analysis appropriately for the specified theory did so by constraining their theory and measurement of influence to the individual level of analysis even though interpersonal influence is an inherently dyadic construct.

Many questions remain unanswered because the relevant levels of analysis have not yet been addressed in influence tactic research. To what extent is influence tactic selection driven by

the person doing the influencing, the person being influenced, or the relationship between the two? If the influencer selects the tactic, what characteristics of the influencer that determine the influence tactics he or she will use? Similarly, is there something consistent about targets of influence that invite particular tactics? Do we craft our influence to fit particular relationships? What impact does influence tactic use have on interpersonal relationships, and conversely what impact do interpersonal relationships have on influence tactic selection?

This paper attempts to answer these questions by appropriately using all levels of analysis relevant to influence tactic through the use of Social Relations Analysis (SRA: Kenny & La Voie, 1984; Snijders & Kenny, 2005; Kenny et al., 2006). SRA provides a methodology to parse the sources of variance in multilevel constructs. As a part of this process, SRA estimates component effects (i.e., an agent effect, a target effect, and a dyadic effect) for each participant. These componential effects can be used in subsequent analysis in an attempt to identify antecedents and outcomes of the multilevel construct at the appropriate level of analysis.

Using SRA, this study will first partition the variance in interpersonal influence tactic use to determine the sources of variance among the relevant levels of analysis. At the individual level of analysis, this study will assess the agent of influence and the target of influence as possible sources of variance in influence tactic use. At the dyadic level, this study will assess dyadic relationships as a source of variance in influence tactic use.

After identifying the proportion of variance in tactic use accounted for by agents, targets, and dyads, this study will assess possible antecedents of the agent, target, and dyadic components. For the two individual-level components, (i.e., agent and target), this study will examine Big 5 personality traits (Goldberg, 1990; McCrae & John, 1992) and attachment styles (Bowlby, 1969; Fraley & Waller, 1998; Mikulincer & Shaver, 2007) as possible antecedents.

For the dyadic component, this study will investigate interpersonal complementarity (Wiggins, 1982) as a possible antecedent. Lastly, this study will investigate the iterative relationship between interpersonal social exchange relationships (Graen & Scandura, 1987) and dyadic influence tactic use.

This study attempts to make several contributions in the field of influence tactic research. This study applies the novel technique of SRA to solve a significant problem hampering influence tactic research: interpersonal influence is a fundamentally multilevel construct, but has not previously been addressed at all relevant levels of analysis simultaneously. As a result, although influence tactic research has been able to identify which influence tactics are used in organizations, it has been limited in its ability to explain why. This failing is especially problematic because influence tactic research has historically followed an empirical and inductive approach, largely devoid of theory explaining the observed effects (Yukl & Chavez, 2002). Identifying the sources of variance driving influence tactic selection lays the groundwork for more precise theory formation and allows for better connection with other potentially relevant theoretical frameworks. This study attempts to move forward by investigating the antecedents of influence tactic behavior at the corresponding levels of analysis. Although the relationship between personality and influence behavior has been investigated previously (e.g., Buss, 1987; Caldwell & Burger, 1997; Cable & Judge, 2003), this study provides greater precision by specifically linking personality with individual-level agent and target effects. Additionally, this study introduces attachment styles as a potential antecedent of influence behavior at the individual level. At the dyadic level, this study makes novel connections with interpersonal theory (Leary, 1957; Wiggins, 1982) to identify possible dyadic-level antecedents of influence tactic selection. Lastly, this study takes full advantage of SRA' ability to deal with

the complex relationships between two multilevel construct to investigate reciprocal relationships between dyadic social exchange relations and influence tactic use.

CHAPTER 2: ADDRESSING THE LEVELS OF ANALYSIS IN INFLUENCE BEHAVIOR USING SOCIAL RELATIONS ANALYSIS

Influence tactic research grew out of a desire for a more empirically grounded approach to understanding interpersonal influence. In their seminal article, Kipnis et al. (1980) stated their intent to move beyond armchair speculations about influence processes and to see what people were actually doing in the workplace. They created the Profile of Organizational Influence Strategies (POIS: Kipnis & Schmidt, 1982) instrument based on critical incident reports written by people in the workplace. This approach identified a set of influence behaviors that were being enacted in organizations. A weakness of this approach is that it provided no theory as to why these behaviors were being enacted. The strengths and weaknesses of this approach have persisted, as follow-on studies have continued with an empirical approach and have allowed study results to essentially speak for themselves (Yukl & Chavez, 2002). Over time, the POIS was revised (POIS-Revised: Schriesheim & Hinkin, 1990) and refigured (Influence Behavior Questionnaire [IBQ]: Yukl, Lepsinger & Lucia, 1992; Yukl & Siefert, 2002; Yukl, Seifert, & Chavez, 2008), but it has generally provided a stable set of influence tactics to support a consistent stream of research (for a fuller history of influence tactic scale development and use, see Mullaney, 2011). This study will use the 9 influence tactics from Yukl and colleagues' (1992) original IBQ scale, as outlined in Table 1.

Levels of Analysis

The level of analysis of a social phenomenon or construct specifies the entity that is being studied (Klein et al., 1994). For instance, if a student's score on a test is compared with other students, the level of analysis is the individual student. Alternately, if student scores are aggregated across a classroom, then the level of analysis is the entire class. Importantly, the fact that two variables are correlated at the individual level of analysis does not imply that they are

similarly correlated at the group level—individual-level correlations and group-level correlations are logically independent (Ostroff, 1993; Robinson, 1950).

Studying psychological constructs at the appropriate level of analysis is both a conceptual and a methodological concern (Chen, Bliese, & Mathieu, 2004; Klein & Kozlowski, 2000; Muthen, 1994). When two people interact, constructs from multiple levels of analysis potentially affect the interaction simultaneously. At the level of the individual person, each member of a social interaction has enduring traits and prior experiences that s/he brings into the interaction (Kenny, Mohr, & Levesque, 2001). At the dyadic level, every relationship between two people has its own history and characteristics. Over time two people within a relationship may take on roles in accomplishing a particular task (Katz & Kahn, 1966; Weick, 1979). This role relationship would likely have unique effects on interactions within the dyad. Similarly, two coworkers could become friends and spend time together away from the work setting. Their friendship would likely have a unique effect on their characteristic interpersonal interactions, which would likely be different from their interactions with other coworkers.

It is important to conceptualize and measure phenomena at the right level of analysis to avoid drawing incorrect conclusions from one's data (Klein & Dansereau, 1994; Ostroff, 1993). Some studies treat the complexities of levels of analysis as a nuisance and source of noise within a dataset (for discussion, see chapter 2, Kenny et al., 2006). Levels of analysis not consistent with the level under consideration are at worst ignored and at best controlled (Bliese & Hanges, 2004). Other researchers have argued that levels of analysis should be the focus of the research, particularly for any social phenomenon (Kenny, 1994). Since social phenomena operate simultaneously on multiple levels, perhaps the first issue that should be addressed in studying any given social phenomenon is to determine the extent to which each level contributes to the

variance in the observed construct. Luckily, Social Relations Analysis (SRA: Kenny & LaVoie, 1984; Kenny et al., 2006) provides the tools necessary to make just such determinations via variance partitioning.

Social Relations Analysis

SRA is a componential approach with two main effects (agent and target effects) and their interaction (relationship effects). SRA can be seen as a special case of generalizability theory (Kenny et al., 2001) or can be conceptualized as a multilevel model (Snijders & Kenny, 1999). SRA partials variance in dyadic behavior by measuring the behavior of agents and targets across multiple dyadic interactions, typically through the use of a round robin or block design. For each participant, individual level agent and target effects are estimated. An agent effect captures the consistent behavior of an agent across all targets, whereas a target effect captures consistent behavior received by a target across all agents. In a block design, the agent and target effects are simply the mean-centered row and column means for each participant as an agent and as a target, respectively. In a round robin design, there are missing data in the diagonal of the matrix, because agents do not act on themselves; therefore, a correction must be applied to prevent bias in estimating the agent and target effects (see Figure 1). SRA also estimates the relationship effect for each dyad's interaction. The relationship effect represents unique behavior present in a dyad after controlling for the relevant agent effect, target effect, and group mean. Relationship effects are calculated by subtracting the agent's agent effect, the target's target effect, and the group mean from the raw score of each dyadic interaction.

Partitioning Componential Variance in Influence Tactic Use

No published research to date has applied SRA to influence tactic behavior. Influence tactic use has been largely treated either as an individual level agent effect or a group level effect

assigned to the leader of a group. Previous studies have assessed agent/target convergence (i.e., correlation) in reports of influence tactic use and found generally low agreement (Erez, Rim, & Keider, 1986; Xin & Tsui, 1996; Blickle, 2000). These studies collected data only from isolated dyads and did not partition the variance in influence tactic use. Thus, based on this body of influence tactic research, there is little empirical evidence to suggest how variance in influence tactic use is partitioned between agent effects, target effects, and relationship effects.

Previous studies using SRA have investigated how variance in different behaviors is partitioned. Averaging across several studies, Kenny et al. (2001) found that 67% of the variance in observed behaviors was due to relationship variance, 31% was due to agent variance, and only 2% was due to target variance. Estimates of relationship variance are potentially inflated here because error is confounded with relationship effects in Kenny's review. This study differs from previous Social Relations studies of behavior in that it uses target reports of influence behavior in established relationships; the studies summarized by Kenny et al. (2001) were either measured at initial acquaintance or used external observer reports of behavior. Additionally, previous research using SRA has typically investigated interpersonal perceptions (Kenny, 1994) and been less interested in the effects of the group on socio-metric ratings. Group effects are commonly assumed to be negligible and controlled if group effects are expected (Kenny et al. 2006). Although group effects are of interest to research with teams, there is little data to suggest how much variance in influence tactic use is attributable to the group. In partitioning the variance in influence tactic use, this study bases its expectation on the findings of previous SRA studies:

Hypothesis 1a: Non-zero portions of the variance in influence tactic behavior are attributable to agent effects, target effects, and relationship effects. The magnitudes of these variance portions will be stable /consistent across different samples/group contexts.

Hypothesis 1b: Relationship effects will account for the majority (over 50%) of total variance in influence tactic behavior.

CHAPTER 3: PERSONALITY AS AN ANTECEDENT OF INDIVIDUAL LEVEL EFFECTS OF INFLUENCE TACTIC USE

Personality traits can be defined as “the relatively enduring patterns of thoughts, feelings, and behaviors that reflect the tendency to respond in certain ways under certain circumstances” (Roberts, 2009). Since the trait approach to personality found solid footing in the 1980’s through the consolidation of a five factor model of personality (Digman, 1997; Goldberg, 1990), personality traits have been used as potential antecedents to a wide range of interpersonal and organizational behaviors (e.g., Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007). Personality is of particular interest to interpersonal interactions. Because personality traits capture broad patterns of behavior, they can be expected to predict future behaviors; thus, they are potentially informative to determine how an agent might act toward a target.

Perhaps even more interesting is the role of the target’s personality. Influencing agents are assumed to have goals motivating their influence behavior toward targets. Dyadic behavior is interesting because it involves both the actions of agents and the reactions of target. In order for an agent to achieve his or her aim in acting on a target, the agent must be able to predict the target’s reaction. Because personality traits capture enduring patterns of behavior in the target, the agent likely draws on perceptions of the target’s personality to predict the target’s reactions to the agent’s actions (Bieri, 1955; Colvin & Funder, 1991). Thus, in a dyadic interaction, the personalities of both the agent and the target may be instrumental in predicting the agent’s behavior.

Social Relations Analysis (SRA) estimates an agent effect and target effect for each participant for a given behavior. The agent effect captures consistent behavior of the agent across diverse targets. Inasmuch as the target effect represents consistent behavior, it should be related to the enduring patterns of behavior captured in personality traits. Target effects for

behavior, on the other hand, capture the consistent behavior received by the target from multiple agents. If agents are using target personality to predict target reactions to their actions, then target personality should be related to target effects for agent behavior.

This study investigates the relationship between personality and agent and target effects for influence tactic behavior. In general, this study asserts that there will be a correspondence between personality and these individual level effects. Assessing five factors of personality related to two individual level effects for nine tactics provides an unwieldy array of potential relationships to hypothesize. This study is guided by previous findings relating personality to influence tactic use (Buss, 1987; Caldwell & Burger, 1997; Cable & Judge, 2003), but recognizes that these studies did not account for all appropriate levels of analysis. The next several paragraphs will consider individual personality traits and their expected effects on influence behavior.

Extraversion

Extraversion encompasses the traits of warmth, gregariousness, assertiveness, activity, excitement seeking, and positive emotion (Costa & McCrae, 1995). Consistent with the activity facet of extraversion, previous studies have reported that extraverts report performing (Kyl-Heku & Buss, 1996) and receiving (Mullaney & Newman, 2012) more influence tactics of every type. With respect to influence tactic selection, the positive emotion, excitement seeking, and assertiveness facets of extraversion all suggest that extraverted influence agents should be drawn to inspirational appeals. Inspirational appeals allow extraverts to create an original vision of an optimistic and exciting future. Therefore, agent extraversion is expected to be positively related to agent effects for inspiration appeals.

H2a: Agent Extraversion will positively predict agent effects for Inspirational Appeal tactics.

The activity, excitement seeking, and positive emotion facets also make extraverts good targets of inspirational appeals. Since extraverts are active and energetic, they don't need to be motivated so much as steered. Inspirational appeals highlight the meaningful or exciting possibilities that will attend a given course of action, inviting extraverts to steer their energy in that direction. It is likely that influencing agents will consistently recognize and tap into these facets and use inspirational appeals on extraverted targets.

H2b: The Extraversion of influence targets will positively predict target effects for Inspirational Appeal tactics.

Conscientiousness

Conscientiousness consists of facets of competence, order, dutifulness, achievement striving, self-discipline, and deliberation (Costa & McCrae, 1995). The deliberation facet of conscientiousness suggests that conscientious agents of influence will weigh the pros and cons of potential courses of action. This careful consideration lays the ground work for the cogent arguments necessary for rational persuasion. Because conscientious agents are dutiful and strive for achievement for its own sake, they are less likely to employ manipulative tactics or offer extrinsic rewards and are therefore less likely to use exchange tactics.

H3: Agent Conscientiousness will (a) positively predict agent effects for Rational Persuasion and (b) negatively predict agent effects for Exchange tactics.

Because conscientious workers are competent, orderly, dutiful, self-disciplined, and strive to achieve, they are likely to perform well (Barrick & Mount, 1991; Hertz & Donovan, 2000) and be appreciated by their coworkers and teammates. Since conscientious workers are more likely to have developed their skills and achieved higher performance, influencing agents are more likely to cite this performance in seeking more of the same, and thus employ ingratiation influence tactics (somewhat contrary to the typical usage of the term 'ingratiation' to

denote attempts to become more likeable or attractive [Jones, 1964], in the influence tactic literature ingratiation entails telling someone they have special skills or qualifications and praising past performance [Yukl et al., 2008]). Likewise, if a worker/coworker is already doing what is desired (or at least working diligently), then influencing agents are less likely to apply pressure tactics.

H3: The Conscientiousness of influence targets will (c) positively predict target effects for Ingratiation and (d) negatively predict target effects for Pressure.

Agreeableness

The facets of agreeableness include trust, straightforwardness, altruism, compliance, modesty, and tender-mindedness (Costa & McCrae, 1995). The facets of trust, altruism, modesty, and tender-mindedness all suggest that an agreeable influence agent is less likely to employ pressure tactics, which entail demands, threats, or repeated warnings (Yukl et al., 2008).

H4a: Influence agent agreeableness will negatively predict agent effects for pressure tactics.

Agreeable targets, on the other hand, may be somewhat taken advantage of by influencing agents. Compliance is likely the most salient trait of agreeableness for targets of influence. When influencing agreeable targets, agents may take advantage of this tendency towards compliance with legitimating tactics. Legitimizing tactics reinforce standing policy or prior agreements in seeking to influence targets (Yukl et al., 2008). Agreeable targets are likely to go along with precedence and thus invite legitimating tactics.

H4b: The Agreeableness of influence targets will positively predict the target effect for Legitimizing tactics.

Openness

The personality trait of openness encompasses openness in several domains: openness to fantasy and aesthetics as well as other people's feelings, actions, ideas, and values (Costa &

McCrae, 1995). Because highly open agents are open to the ideas, feelings, and values of others, they are less likely to try and coerce or manipulate their targets. One of the most manipulative influence tactics is the use of coalitions, in which the agent applies social pressure to force the target to choose between either being compliant or being an outsider to the group. Out of respect for the ideas, feelings, and values of others, agents high on openness are less likely to use coalition tactics.

H5a: Influence agent Openness will negatively predict agent effects for Coalition tactics.

Targets high in openness are open to the ideas and values of others. This openness allows other people easy access to attempt to influence or persuade the target. Because open targets will likely listen to ideas without resistance, agents influencing them can afford to be straightforward. Rational persuasion is the most straightforward tactic. Agents employing rational persuasion simple have to lay out their reasons for wanting to do something. Assuming the agent's logic is reasonable and comprehensible, open targets are likely to give the agent's arguments due consideration. Thus, targets high on openness should receive more rational persuasion.

H5b: The Openness of influence targets will positively predict target effects for Rational Persuasion.

Neuroticism

The facets of neuroticism are anxiety, hostility, depression, self-consciousness, impulsiveness, and vulnerability to stress (Costa & McCrae, 1995). Each of these facets entails an imbalance between emotional impulses and rational control mechanisms. Simply put, for people high in neuroticism, emotions are in the driver's seat. Because people high in neuroticism have difficulty in exercising rational control of themselves, it follows logically that

they are unlikely to exercise rational control of others. Thus, agent neuroticism is expected to have a negative relationship with rational persuasion tactics.

H6a: Influence agent Neuroticism will negatively predict agent effects for Rational Persuasion.

Neuroticism as a personality trait is sometimes considered in its opposite form, emotional stability. From the perspective of social interactions, stability is probably the most important aspect of this trait. Because people high in neuroticism are unstable, it is difficult to develop consistent cause and effect expectations for interpersonal interactions with people high in neuroticism. From the perspective of influence tactics, it is difficult to calculate how people high in neuroticism will respond to any given tactic. Exerting influence is sometimes metaphorically described as using carrots and sticks to move a cart horse; carrots are motivations towards something that is positive and desired, whereas sticks are motivations away from something painful or undesired. People vary a great deal in what they desire, but are relatively consistent in the things that they want to avoid. Pressure tactics tap into the negative motivations characterized by sticks. Pressure tactics consist of behaviors such as making demands, using threats or warnings, or nagging and constantly checking up on people (Yukl et al., 2008). Because people high in neuroticism are unstable and inconsistent, agents influencing neurotic targets are likely to use tactics that have the most consistent motivational effect, i.e. pressure tactics. Using pressure tactics are especially attractive to use on people high in neuroticism because there is little risk of negative results. The downside of pressure tactics in general is that they engender resistance and negative behaviors from targets (Libo, 1996). Since people high in neuroticism are already prone to hostility, anxiety, depression, and impulsivity, they are already enacting the behaviors one would seek to avoid by withholding pressure. The agent therefore does not have much to lose in using pressure tactics.

H6b: The Neuroticism of influence targets will positively predict target effects for Pressure tactics.

CHAPTER 4: ATTACHMENT AS AN ANTECEDENT OF INDIVIDUAL LEVEL EFFECTS OF INFLUENCE TACTIC USE

Attachment theory asserts that early childhood experiences impact the security that adults feel in interpersonal relationships and how they act in an effort to feel more secure (Fraley & Waller, 1998; Fraley & Brumbaugh, 2004). Because children are largely defenseless, they depend on the proximity of stronger and wiser attachment figures to protect them (Bowlby, 1969). The security that children feel is based upon the physical and emotional availability of these attachment figures. If attachment figures are readily available and responsive to sooth a child's fears, then the child will feel secure and be confident to explore the world around them. If attachment figures are not physically or emotionally available, the child's need for security may not be met.

Over time, children develop expectations of their attachment figures and develop behavioral patterns consistent with these expectations (Ainsworth, Blehar, Waters, & Wall, 1978). If generally secure children feel threatened, they will seek out the comfort of their attachment figures; once their attachment is confirmed and a sense of security restored, they will return to normal behavior. On the other hand, if attachment figures are not readily available or responsive, then children may develop insecure attachment strategies. The two primary insecure attachment strategies are anxious attachment and avoidant attachment. Like securely attached children, anxious children will seek out a comforting attachment figure when they feel threatened. Unlike securely attached children, anxious children do not trust in the availability of the attachment figure and will therefore seek to maintain their connection with their attachment figures even after specific threats have passed. These anxious attempts to maintain connection with the attachment figure disrupt the children's ability to restore a sense of normality and to feel safe in engaging the world around them. Similar to anxious children, avoidantly attached

children do not trust in the availability of their attachment figures. Instead of expending excess energy to establish and maintain connections with their attachment figures as anxious children do, avoidant children assert their independence and exert effort in distancing themselves physically and emotionally from their attachment figures. Avoidant children's ability to engage the world is hampered because they limit their engagement with others out of distrust.

The attachment strategies of children are important in adult behavior because these early experiences and behavioral patterns contribute to the mental models people form about themselves and others (Mikulincer, 1995; Mikulincer & Horesh, 1999). Secure children tend to form positive mental models of themselves and others. They believe that people are generally trustworthy and good and that they themselves are secure and capable. Anxious children tend to blame themselves for their relational dysfunctions, forming a positive mental model of others but a negative mental model of themselves. They believe that other people are good, but that they themselves are unworthy of the attention and affection of others. Avoidant children tend to have the opposite reaction: they blame and distrust others for being unavailable, yet maintain a positive view of themselves.

No previous studies have investigated the role attachment styles play in the use of influence tactics. Several studies have investigated how attachment styles impact leadership, a closely related construct. Mikulincer and Florian (1995) found that secure military recruits were more likely to be seen by their peers as potential leaders than insecure recruits. Secure leaders are more likely to be seen as transformational (Popper, Mayseless, Castelnovo, 2000) and to use relationally focused vice task focused leadership (Doverspike, Hollis, Justice, & Polomsky, 1997). Similarly, secure leaders have been found to have more effective followers (de Sanctis & Karantzas, 2008) and to be more likely to delegate (Johnston, 2000). In a series of studies of the

Israeli military, Davidovitz, Mikulincer, Shaver et al., (2007) found that anxious and avoidant leaders employed more self-enhancing (vice socially promotive) forms of leadership.

Additionally, anxious leaders were perceived as being motivated by a desire to exert control and promote themselves, while avoidant leaders were perceived as being motivated to be self-reliant. These studies suggest that attachment styles are likely to impact the way the that people interact in organizational settings through behaviors such as influence tactics. Since influence tactic use is a more proximal construct of interpersonal interactions than most measures of leadership, influence tactic selection may in fact mediate the relationship between attachment styles and more distal leadership phenomena.

The most salient feature of attachment styles with respect to influence tactic selection are the mental models of self and other which they entail (Ein-Dor, Mikulincer, & Shaver, 2011). Anxiously attached influence agents have a positive view of others but a negative view of self. This mismatch interferes with their ability to attend to others and act empathetically since the anxious person's energy is focused on perceived threats and unfulfilled attachment desires (Mikulincer & Shaver, 2007). Because of their negative mental model of self, anxious agents are likely to attempt to draw on sources of power outside of themselves through tactics such as coalitions, legitimating, and exchange. In using coalitions, agents draw on the force of social pressure by enlisting the aid of others in the group. Similarly, with legitimating, agents draw upon the force of established procedures or agreements. Anxious influence agents are also likely to strengthen their influence bid by providing additional extrinsic benefit to the target through exchange tactics.

H7: Influencing agent Anxious attachment positively predicts agent effects for (a) Exchange, (b) Legitimating, and (c) Coalition tactics.

Avoidant influence agents try to maintain a positive view of self while adopting a negative view of others. This mismatch will make them tend to be more task oriented (Doverspike et al, 1997), have lower emotional efficacy (Davidovitz et al., 2007), and be less likely to delegate (Johnston, 2000). Avoidant influence agents are not interested in expending effort to build supportive social relationships because they undervalue others and they desire to be seen as independent (Bowlby, 1973). They also value individual accountability and will likely be critical of others who don't live up to their standards. They are likely to use pressure tactics because they do not believe that others will fulfill their responsibilities without direction and oversight. Avoidant influence agents may also use exchange tactics because they believe that other people are untrustworthy and have to be compensated in order to perform.

H8: Influencing agent Avoidant attachment positively predicts agent effects of (a) Exchange and (b) Pressure tactics.

Predicting target effects based on target attachment styles is less straight forward in that it involves more than just the target's mental models. To predict target effects of target attachment styles, we must consider how the target's attachment style typically contributes to the perceptions and expectations of influencing agents. Insecure attachment styles are likely to lead to maladaptive behavioral responses in targets (Mikulincer & Shaver, 2007); influencing agents are thus likely to develop strategies to minimize or avoid these maladaptive behaviors in targets. Insecure targets who consistently receive these influence strategies will demonstrate target effects related to attachment styles.

Anxiously attached individual often present themselves as weak and vulnerable (Mikulincer & Shaver, 2007) and are thus less likely to be well respected. An anxious target's self-focus will be disruptive to the ideas and plans of an influencing agent. Agents influencing anxious targets will likely want to avoid the drama and effort of having to deal with an anxious

target's emotional needs. Thus, agents influencing anxious targets are more likely to use succinct tactics that minimize personal interactions, particularly pressure tactics.

H7d: Influence target Anxious attachment positively predicts target effects for Pressure tactics.

Avoidant individuals seek to preserve their independence in order to protect their positive self-image (Bowlby, 1973). This aspect alone makes them somewhat hardened to external influence. Additionally, they undervalue relationships with others and are therefore less susceptible to social influence. Altogether, from an influence perspective, avoidant individuals are likely tough nuts to crack. Due to this built in resistance to influence, it is likely that avoidant individuals will receive straightforward influence in the form of rational persuasion. Agents are likely to simply explain why something needs to be done and let the avoidant individual take on the task or project. Avoidant individuals may also be susceptible to ingratiation. Although they are independent, avoidant individuals do have an underlying insecurity and need for attachment. Ingratiation tactics, which praise past performance and capabilities, might successfully play on the avoidant individual's desire for independence and underlying need for recognition.

H8: Influence target Avoidant attachment positively predicts target effects for (c) Rational Persuasion and (d) Ingratiation.

CHAPTER 5: INTERPERSONAL COMPLEMENTARITY AS AN ANTECEDENT OF DYADIC LEVEL INFLUENCE TACTIC USE

According to Interpersonal theory, variation in interpersonal behavior is driven by two primary human needs: the need for agency and the need for communion (Wiggins, 2003). Need for agency is the need to feel as though one's life is ordered and in control. Need for communion is the need to feel connected with other people. Individuals vary in their need for agency along a continuum from dominance, in which one needs to be in control, to submissiveness, in which one needs others to be in control. Individuals vary in their need for communion on a continuum from affiliative, in which one effortfully seeks interpersonal closeness, to hostile, in which one effortfully avoids closeness. These two continuum can be crossed to form a two dimensional space representing the combination of possible needs for agency and communion (Kiesler, 1983). Individuals can be plotted in this two dimensional space based on their needs for agency and communion. This two dimensional space serves as the backdrop for the Interpersonal Circumplex (IPC: Leary, 1957; Wiggins, 1995; see Figure 2), a circular plot defining 8 possible dispositions based on variations in individuals' needs for agency and communion. Within the circumplex, positively correlated dispositions are proximal and negatively correlated dispositions are distal (Sadler, Ethier, Gunn, Duong, & Woody, 2009).

Interpersonal theory is largely concerned with how two individuals will interact based on the interplay of their dispositions. A key concept of Interpersonal theory is *complementarity*, a measure of the match between the dispositions of two members of a dyad (Smith & Ruiz, 2007; Tracey, Ryan, & Jaschik-Herman, 2001). Complementarity is maximized through *reciprocity* of agentic needs and *correspondence* of communion needs (Burgoon, Stern, & Dillman, 1995). That is, Interpersonal theory suggests that a dyad is most complementary when the two members have opposite agentic needs, such that one person's dominance is matched with the other's

submissiveness, and the same communion needs, such that both members have similar levels of affiliation/hostility. Interpersonal theorists further suggest that members of a dyad will act in mutually adaptive ways in order to achieve greater levels of complementarity (Sadler & Woody, 2003; Sadler et al., 2009). In order to achieve reciprocity in agentic needs, dyadic members' levels of dominance will become more divergent; in order to achieve correspondence in communion needs, dyadic members' levels of affiliation will become more similar.

Although Interpersonal theory was developed prior to the consolidation of the Big 5 personality traits, the dimensions of need for agency and affiliation have been subsequently mapped onto the Big 5 traits of Agreeableness and Assertiveness, a facet of Extraversion (McCrae & Costa, 1989). Of the Big 5 personality traits, Extraversion and Agreeableness are the only two that are intrinsically interpersonal, so it is reasonable that they would capture the dispositions described by Interpersonal theory. According to McCrae and Costa (1989), the two dimensional space created by crossing the two interpersonal big 5 traits of Extraversion and Agreeableness is a 45 degree rotation of the IPC axes of affiliation and dominance (see Figure 2). Big 5 personality theory and Interpersonal theory are thus complementary in that personality theory places interpersonal theory within the wider range in individual differences and dispositions, whereas interpersonal theory provides a theoretical foundation for examining the interplay of personality traits in dyadic combinations.

Influence tactics are interpersonal behaviors; they should be participant to the forces of mutual adaption as described in interpersonal theory. Previous influence tactic research has considered aspects of dominance and affiliation with respect to influence tactics. Influence tactics have been grouped by several authors as Hard or Soft based on the degree to which they either force compliance or invite participation from the target, respectively (e.g., Kipnis &

Schmidt, 1985; Falbe & Yukl, 1992; Tepper, Eisenbach, Kirby, & Potter, 1998). Recent meta-analysis has shown that, from the target perspective, Rational Persuasion, Consultation, Inspirational Appeals, Ingratiation, Exchange, and Personal Appeals are best grouped as Soft tactics, whereas Pressure, Legitimizing, and Coalitions are best grouped as hard tactics (Mullaney, 2011). Use of Hard tactics can be seen as dominant interpersonal behavior. Conversely, use of Soft tactics, which promote a shared vision (Rational Persuasion, Consultation, and Inspirational Appeals) and social exchange (Ingratiation, Personal Appeals, and Exchange), can be seen as affiliative behavior. In accordance with the mutual adaptation principle, dyadic influence behavior should promote greater complementarity. Dyadic members who are similar in Assertiveness/dominance should behave in divergent ways, such that one member should use more hard influence behavior to become more dominant and the other should use less hard influence behavior to become more submissive. Thus, similarity in dyadic members' Assertiveness should promote the dyadic use of Hard influence tactics in one member and dampen the dyadic use of hard tactics in the other member.

Hypothesis 9A: Dyadic similarity in Assertiveness predicts Hard influence tactics use.

Conversely, dyadic members who differ in their levels of Agreeableness/Affiliation should behave in more similar ways, such that the less agreeable member is more affiliative and the more agreeable member is less affiliative. Thus, differences in dyadic members' agreeableness should promote the dyadic soft influence use in the less agreeable member and dampen the dyadic soft influence in the more agreeable member.

Hypothesis 9B: Dyadic dissimilarity in Agreeableness is positively related to Soft influence tactic use

CHAPTER 6: RECIPROCALITY OF LEADER MEMBER EXCHANGE AND INFLUENCE TACTIC USE

Within the organizational psychology literature, Leader Member Exchange theory (LMX: Dulebohn, Bommer, Liden, Brouer, & Ferris, 2011; Scandura & Graen, 1984) has been a primary construct for considering dyadic interactions. LMX began when researchers applied role theory (Sarbin & Allen, 1968; Graen, 1976) and social exchange theory (Blau, 1964) to leadership in order to explain how leader-follower relationships might differ from follower to follower. The LMX approach shifted leadership research from focusing on leader specific traits and behaviors to considering leader-follower vertical dyads (Dansereau, Graen, & Haga, 1975). LMX theorizes that leader-follower relationships vary based on a process of role taking and role routinization between a leader and a follower in which each determines what will be provided and what will be expected from the relationship (Graen & Cashman, 1975). LMX relationships can vary in their overall quality. In high quality LMX relationships, the leader provides benefits such as increased pay, better assignments, career support (Yukl & Michel, 2006) and greater negotiating latitude (Graen & Scandura, 1987) and the follower provides commitment, loyalty, and extra effort (Yukl & Michel, 2006). In low quality LMX relationships, neither the leader nor the follower provide much. Because high quality LMX requires provisions from the leader, the leader is potentially limited in the number of high quality relationships he or she can sustain, thereby increasing the probability of variation in LMX quality among followers of the same leader. High quality LMX relationships have been shown to be positively related to organizational performance and attitude variables, particularly for followers (Gerstner & Day, 1997).

In the history of LMX research, there has been variation with respect to what the LMX construct is supposed to capture and how it has been measured (Schriesheim, Castro, & Coglisier,

1999). Recent consensus holds that LMX is best conceptualized as an abstract notion that is broadly defined and captures the tendency to behave in relationally supportive ways (Joseph, Newman, & Sin, 2011). This broad construct contains facets of Affect, Loyalty, Contribution, and professional Respect (Liden & Maslyn, 1998). Although LMX was initially conceived as a dyadic relationship between a leader and a follower, several researchers have extended the concept to include dyadic relationships among group members and co-workers (e.g. Baugh & Graen, 1997; Seers, 1989; Seers, Petty, & Cashman, 1995; Sherony & Green, 2002; Liden, Wayne, & Sparrowe, 2000). This extension toward a more general construct is supported by both the conceptualization of LMX as a broad construct and by the constituent facets, which have clear face validity for a wide range of interpersonal relationships within organizations. Extending LMX more generally to group and organizational dyads allows future research to draw on the wealth of existing research as a foundation for theory. This study applies the broad construct of LMX to lateral social exchange relationships within cooperative work groups.

Although LMX has been conceptualized to occur on the level of the relationship, it has been typically measured on the individual level through reports from the agent or the target. As a result, researchers have begun to parse LMX based on who reports the relationship and whether they report on their own relationship provisions or those of their relationship partner (Joseph et al., 2011). Social Relations Analysis (SRA) provides a methodology to measure the relationship component of LMX directly by controlling for agent and target effects, which should allow better assessment of the theorized LMX construct.

Interpersonal relationships are enacted through interpersonal behaviors. Interpersonal relationship quality is therefore a logical predictor of interpersonal behaviors within a relationship. Interpersonal relationships are also dynamic constructs that can change and evolve

over time. Changes in interpersonal relationships may arise in response to specific interpersonal behaviors. Thus, interpersonal behaviors can be both antecedent and outcome of interpersonal relationships. This study asserts that such is the case with LMX and influence tactic use: the quality of the social exchange relationship predicts the influence tactics used within dyads, and the influence tactics used within dyads predicts the quality of the social exchange relationship.

Previous research examining the relationship between influence tactics and LMX has examined LMX as an outcome of influence tactic use. These studies have consistently found a relatively strong relationship between LMX and Soft influence tactics, which promote target participation, and a more moderate negative relationship between LMX and Hard influence tactics, which seek to dominate the target (Dockery & Steiner, 1990; Sparrowe, Soetjijto, & Kraimer, 2006; Yukl & Michel, 2006; Furst & Cable, 2008). This study hypothesizes that LMX will predict influence tactic use, such that higher quality LMX relationships will be positively related to more cooperative Soft influence tactics and negatively related to more forceful Hard influence tactics.

Hypothesis 10a: Agent LMX will be positively related to the use of Soft influence tactics

Hypothesis 10b: Agent LMX will be negatively related to the use of Hard influence tactics

Further, this study hypothesizes that influence tactic use will predict the quality of LMX relationships, such that the use of relationship enhancing Soft influence tactics will be positively related to LMX and the use of autocratic Hard tactics will be negatively related to LMX.

Hypothesis 11a: The use of Soft influence tactics will be positively related to target LMX.

Hypothesis 11b: The use of Hard influence tactics will be negatively related to target LMX.

CHAPTER 7: METHODS

Participants

This study investigated the use of influence tactics in graduate and undergraduate project teams ranging in size from 4 to 15 members (average size 4.95). Participants were 317 students (82% male, 67% Caucasian, 20% Asian) working in 64 project teams and comprising 1955 dyads. The average age was 21.9 ($SD = 2.57$). Students were enrolled in business, administration, and engineering courses at a large mid-western university and two East Coast military academies. Project teams were all working on team projects that lasted at least one full semester and required significant team interaction. In return for their participation, students received anonymous, individualized feedback on their personality scores as well as aggregated feedback from their team about their influence tactic use, the team's response to their influence behavior, and LMX.

Procedures

Participants completed a survey about half way through the semester in which they were completing group projects. They provided demographic data, a self-report of their personality traits and attachment styles, and round robin network measures of influence tactic use, responses to influence, and LMX. All influence tactic, influence response, and LMX measures were socio-metric, and were thus reported at the level of the social network tie. Participants reported the influence tactics that every other team member used on them, how they typically responded to influence attempts of every other team member, and their LMX provisions with every other member. Surveys were administered using both paper and pencil and online editions.

Measures

Personality was measured using the Big Five Inventory (BFI: John, Donahue, & Kentle, 1991; John, Naumann, & Soto, 2008), a 44 item survey that measures trait Extraversion, Conscientiousness, Agreeableness, Openness, and Neuroticism. Each participant in the study indicated how much each short description was like them on a 5 point scale for Strongly Disagree to Strongly Agree. Additionally, Assertiveness, a facet of Extraversion, was measured using a 4 item subscale from the IPIP-NEO Personality Inventory (Johnson, 2011) with the same response format. All trait and facet scales demonstrated good scale reliability (Extraversion, $\alpha = .88$; Agreeableness, $\alpha = .81$; Conscientiousness, $\alpha = .84$; Neuroticism, $\alpha = .81$; Openness, $\alpha = .76$; and Assertiveness, $\alpha = .80$).

Attachment styles. Anxious and avoidant attachment styles were measured using Eastwick and Finkel's (2008) shortened versions of Brennan, Clark, and Shaver's (1998) Experiences in Close Relationships (ECR) scale, a self-report measure of attachment style. Eastwick and Finkel validated 3 item scales for both anxious and avoidant attachment based on item total correlations observed in previous studies and scale reliability in a subsequent study (.79 and .77 for anxiety and avoidance, respectively). Eastwick and Finkel were particularly interested in romantic relationships and altered their items to reflect this. This study uses the items identified by Eastwick and Finkel but uses the more generic item wording from the original ECR. For attachment anxiety, the three items are: "I need a lot of reassurance that close relationship partners really care about me," "I worry that others won't care about me as much as I care about them," and "I worry about being rejected or abandoned." For attachment avoidance, the three items are: "I feel comfortable opening up to others," (Reverse scored) "I get uncomfortable when someone wants to be very close," and "I find it difficult to allow myself to depend on close relationship partners." Responses to these items were on a 7 point scale from "Strongly

Disagree” to “Strongly Agree” in accordance with both Eastwick and Finkel (2008) and the original ECR (Brennan et al., 1998). In this study, the Anxious attachment scale had good reliability ($\alpha = .81$) while the Avoidant attachment scale demonstrated marginal reliability ($\alpha = .66$).

Influence Tactics. Items measuring influence tactic behavior were taken from the Influence Behavior Questionnaire (IBQ-G: Yukl et al., 2008). The IBQ-G measures the use of 11 different influence tactics using 4 items per tactic. Previous versions of the IBQ measured 9 influence tactics: Rational Persuasion, Consultation, Inspirational Appeals, Ingratiation, Exchange, Personal Appeals, Legitimizing, Coalitions, and Pressure. Typically, the IBQ is used to rate the influence behavior used by either the rater or one focal person. In this study, participants rated the influence behavior of each person in their group in order to allow for round robin network analysis of influence behavior. Consistent with previous studies using similar round robin and network designs (e.g., Bowler & Brass, 2006; de Jong, Van der Vegt, & Molleman, 2007; Lam, Van der Vegt, Walter & Huang, 2011), this study used one item for each of the nine tactics indicated above to reduce survey fatigue. To select items to represent each tactic, a pilot study was conducted using an internet survey to identify the items with the highest factor loadings. The final item pool included the following: Coalition tactics: “Gets others to explain to you why they support a proposed activity or change that he/she wants you to support or help implement” (factor loading .85); Rational Persuasion: “Explains clearly why a request or proposed change is necessary to attain a task objective” (.85) Exchange: “Offers to do something for you in exchange for carrying out a request” (.94); Ingratiation: “Praises your skill or knowledge when asking you to do something” (.95); Pressure: “Tries to pressure you to carry out a request” (.88); Consultation: “Invites you to suggest ways to improve a preliminary plan or proposal that he/she

wants you to support or help implement” (.89); Inspirational appeals: “Describes a clear, inspiring vision of what a proposed project or change could accomplish” (.87); Personal appeals: “Asks you as a friend to do a favor for him/her” (.93); Legitimizing tactics: “Says that a request or proposal is consistent with a prior agreement or contract” (.87). Participants rated how frequently each member of their group used each tactic on a 5 point scale: 1 = “Never”, 2 = “Seldom”, 3 = “Occasionally”, 4 = “Often”, or 5 = “Very Frequently”.

Leader Member Exchange. LMX was measured using items from the LMX MDM (Liden & Maslyn, 1998). To reduce overall survey length to meet the requirements of a round robin network survey, one item each was selected from each facet of LMX: Affect, Loyalty, professional Respect and Contribution. Participants reported on these provisions in a socio-metric format, rating each LMX facet for every other member in their network. Although use of the full LMX MDM scale would have been preferred, using a four item measure for a single construct exceeds the single-item data collection routinely employed in network and round robin studies. With network sizes ranging upward to 15 members, participants will be responding to as many $(15-1) \times 4 = 56$ LMX items using the four-item scale. The full LMX MDM scale would have ballooned to over 100 LMX items per participant in some networks, which exceeded the survey limits imposed by survey sponsors. The following items were selected to represent: Affect, “I like this individual very much as a person”; Loyalty, “This person would come to my defense if I were ‘attacked’ by others”; Professional respect, “I respect this person’s knowledge of and competence on the job” and Contribution: “I do work for this person that goes beyond what is specified in my job description”.

Control Variables. Gender, race, and age were measured as control variables in this study. In addition, two items assessing family background were included: “What is the highest education

level obtained by your parents/guardians?”, and “How many people lived in your household growing up?”. Lastly, a three item measure of previous leadership experience (Chan, 1999) was included in which participants rated the amount and quality of their leadership experience as compared with their peers and the frequency with which they inhabited leadership roles. The leadership experience scale demonstrated fair reliability ($\alpha = .70$).

CHAPTER 8: ANALYSIS AND RESULTS

Partitioning the Component Variance in Influence Tactic Use

Partitioning of variance for all round robin network variables was conducted using the Triple R package available in the R program (Schönbrodt, Back, & Schmukle, 2012; syntax for this study is provided in Appendix A) in accordance with formulas outlined by Kenny and colleagues (Kenny, 1994; Kenny et al., 2006). Within each group, round robin reported variables were parsed into stable agent and rater components for each member, a relationship component for each dyad, and a group mean. The variances due to the agent, rater, and relationship components were then estimated for each group. Variance estimates were then pooled across groups weighting for group size. The overall variance was then tested for significance using a weighted one sample t test (Schönbrodt et al., 2012). Estimates of agent, rater, and relationship variance were then standardized into percentages of the total variance.

Hypothesis 1a asserted that the proportional variances in the components of influence tactic use would be stable. In order to assess the stability of variance proportions, the total data set was divided into three sub-groups. The goal was to maximize the heterogeneity between sub-groups. The teams comprising the total data set were parsed based on the type of academic institution (military or civilian) and the school within the institution hosting the project course (business/administration or engineering). The resulting three subgroups were as follows: teams from engineering courses at military institutions, teams from engineering courses at civilian institutions, and teams from business/administration courses at civilian institutions. The military engineering sub-group consisted of 120 participants working in 21 teams (mean size 5.71) and comprising 911 dyads. This subgroup was 93% male and 75% Caucasian (8% African American) with an average age of 21.8 ($SD = 1.02$). The civilian engineering sub-group

consisted of 120 participants working in 28 teams (mean size 4.29) and comprising 594 dyads. This subgroup was 87% male and 64% Caucasian (25% Asian) with an average age of 21.5 ($SD = 1.12$). The civilian business sub-group consisted of 77 participants working in 15 teams (mean size 5.13) and comprising 449 dyads. This subgroup was 54% male and 57% Caucasian (34% Asian) with an average age of 22.7 ($SD = 4.82$). Componential variance was calculated for all nine influence tactics for the total data set and for all three sub-groups separately.

Personality and Attachment Predicting Individual-level Effects

In order to assess possible antecedents of influence behavior, the relationship between participants' personality and attachment styles and their componential agent and rater effects for influence tactic use were analyzed. The agent and rater/target components for each influence tactic were estimated for each participant (for an example, see Figure 1). The agent component of influence tactic use is the group mean centered row mean for a participant based on reports of the participants tactic use from all other team members. The row mean is corrected for missing (self-report) data on the diagonal and adjusted to account for participant's own effect as a rater on the group mean (Kenny et al., 2006). The rater/target component for a participant is the corresponding column mean with the same corrections and obverse adjustment. Partial correlations between these components and self-reported personality and attachment styles were estimated controlling for group membership. These correlations were not dis-attenuated for agent or rater/target unreliability as is sometimes done in Social Relations Analysis (SRA; (Schönbrodt et al., 2012).

Interpersonal Complementarity predicting Dyadic Influence Tactic Use

Next, interpersonal complementarity was investigated as a possible antecedent of the relationship specific component of influence tactic use. In SRA, the estimate of the relationship

component of a network variable is confounded with error. In order to isolate the relationship component from error, multiple indicators of the network variable must be used to separate stable and unstable component effects across indicators (Kenny, 1994). Thus, using multiple indicators of a network variable, the relationship effect is the portion of the total relationship effect that is stable across indicators, and therefore no longer confounded with error. In order to provide multiple indicators of influence tactic use, this study drew on the latent structure of Hard and Soft influence identified in previous research (Mullaney, 2011).

First, a confirmatory factor analysis (CFA) was conducted to verify the two factor latent structure of influence tactic use, i.e., Hard Influence and Soft Influence. Based on this factor structure, the Hard Influence factor is indicated by Legitimizing, Coalition, and Pressure tactics, whereas the Soft Influence factor is indicated by Rational Persuasion, Consultation, Inspirational Appeals, Ingratiation, Exchange, and Personal Appeal tactics. The CFA was conducted on the covariance matrix of the *target* component of influence tactic use (Table 6b) since the Hard and Soft factor structure was originally derived from target reports of influence tactic use (Mullaney, 2011) and this study employs target reports of influence tactic use. The two factor Hard and Soft influence model demonstrated adequate fit ($\chi^2(26) = 327.6$, Root Mean Square Error of Approximation (RMSEA; Steiger, 1990) = 0.077, Tucker-Lewis index (TLI; Tucker & Lewis, 1973; also known as the non-normed fit index, NNFI) = 0.917, and comparative fit index (CFI; Bentler, 1990) = 0.940. Acceptable model fit is suggested by RMSEA values less than 0.08 (Browne & Cudeck, 1992; Hu & Bentler, 1999). For the NNFI and CFI indices, acceptable model fit is suggested by values greater than 0.90 (Bentler, 1990; Hu & Bentler, 1995; cf. Hu & Bentler, 1999; Marsh, Hau, & Wen, 2004). The two factor Hard and Soft influence model is

presented in Figure 3 (note the factor intercorrelation is .98, suggesting near-nil discriminant validity between the two factors in the current data).

Based on this two factor structure, the two highest loading indicators for each factor (Ingratiation [.62] and Inspirational Appeals [.52] for Soft Influence and Legitimizing [.65] and Coalitions [.58] for Hard Influence) were selected to estimate Hard and Soft influence factors. Only two indicators per factor were used in this analysis due to the current limitations of the TripleR package for estimating Social Relations Models in the R environment (Schönbrodt et al., 2012). The relationship component of Hard and Soft influence was estimated for each dyadic report and first regressed on a null model containing control variables (rater and agent gender, age, race, socio-economic status, and leadership experience). In order to test interpersonal complementarity as an antecedent to relationship specific influence behavior, rater and agent Agreeableness composite scores were added as predictors to the model for Soft Influence and rater and agent composite Assertiveness scores were added as predictors in the Hard Influence model. Lastly, an interaction effect for agent and rater Agreeableness was added to the Soft Influence model and an interaction effect for agent and rater Assertiveness was added to the Hard Influence model.

Influence Tactics and LMX

In order to test Leader Member Exchange (LMX) as both an antecedent and an outcome of influence tactic use, the bivariate correlations between influence tactics and LMX were estimated using the Triple R package of the R program. When conducting bivariate SRA on two round robin variables, six correlates are estimated: four on the individual level and two on the dyadic level (Kenny et al., 2006; see Figure 4). This analysis considered the two dyadic level correlations, often called the intrapersonal and interpersonal correlations. In this analysis, the

interpersonal correlation is the correlation between the agent's reports of the LMX and the target's report of the agent's influence tactic use. In this analysis, the agent report and the target reports being analyzed are the relationship specific components of LMX and influence tactic use, respectively. The interpersonal correlation in this case can best be interpreted as the effect of agent LMX on (target reported) agent influence tactic use.

The intrapersonal correlation is the correlation between influence tactics received by the target and the LMX reported by the target. Again, in this analysis, the relationship specific component of each variable is used. There are two plausible interpretations of the intrapersonal correlations since both variables are reported by the target of influence. One interpretation of the intrapersonal correlation is that it describes the effect of the influence tactics by a target on the targets' perception of LMX, thus describing the effect on influence tactics on social exchange relationships. The alternate interpretation is that the social exchange relationship colors how the target interprets and thus reports the influence tactics used by the agent.

Results

Hypothesis 1a predicted that the variance in influence tactic behavior is stable and attributable to agent effects, target effects, and relationship effects. Results for variance partitioning are presented in Table 2a and Figure 5. Hypothesis 1a was partially supported. Patterns of variance for each variable were generally stable across groups. Several influence tactics, however, had minimal agent variance. Although all but two estimates of the variances due to influencing agents were significant in the combined sample (Exchange and Coalitions were the exceptions), estimates for agent variance were very small, averaging only 7.6% across all tactics. Componential variances in influence tactic use were remarkably stable across subgroups, as can be seen in Table 2b.

Hypothesis 1b predicted that relationship effects would account for the majority (over 50%) of total variance in influence tactic behavior. Hypothesis 1b was not supported. For all but two variables (Rational Persuasion and Team Member Exchange), more than 50% of the variance was attributable to the rater/target of influence. None of the relationship variances for variables in the combined sample were greater than 50% and only two out of 27 subgroup estimates of relationship variance rose above 50% (Rational Persuasion [55%] for military engineers and Personal Appeals [52%] for business students).

This study hypothesized several relationships between individual differences (i.e., personality traits and attachment styles) and individual level component effects for influence tactic use to support the general assertion that influence behavior is in part a manifestation of broader patterns of personality and attachment. The results from this analysis are presented in Table 3a and 3b. For the agent component of influence tactic use, positive relationships were predicted between Extraversion and Inspirational Appeals (H2a) and between Conscientiousness and Rational Persuasion (H3a). Both of these positive predictions were supported ($r_{E \times Insp} = .20, p = .001$; $r_{C \times Rat} = .25, p = .0001$). Negative relationships were predicted between agent Conscientiousness and Exchange (H3b), Agreeableness and Pressure (H4a), Openness and Coalitions (H5a), and Neuroticism and Rational Persuasion (H6a). None of these hypothesized negative relationships was supported ($r_{C \times Exch} = .07, p = .25$; $r_{A \times Press} = .03, p = .62$; $r_{O \times Coal} = .06, p = .37$; $r_{N \times Rat} = -.06, p = .34$). Next, attachment styles were tested as possible antecedents of agent effects for influence tactic use. Anxious attachment was hypothesized to be positively related to agent effects for Exchange (H7a), Legitimizing (H7b), and Coalition tactics (H7c). Avoidant attachment was hypothesized to be positively related to agent effects for Exchange (H8a) and Pressure tactics (H8b). None of the hypothesized relationships between attachment

style and agent effects for influence tactic use was supported ($r_{Anx \times Exch} = .09, p = .16$; $r_{Anx \times Legt} = .74, p = .62$; $r_{Anx \times Coal} = -.02, p = .81$; $r_{Avd \times Exch} = .09, p = .13$; $r_{Avd \times Press} = -.02, p = .76$).

For the target component of influence tactic use, positive relationships were predicted between Extraversion and Inspirational Appeals (H2b), Conscientiousness and Ingratiation (H3c), Agreeableness and Legitimizing (H4b), Openness and Rational Persuasion (H5b), and Neuroticism and Pressure (H6b). Only the relationship between Extraversion and Inspirational was supported ($r_{E \times Insp} = .13, p = .04$; $r_{C \times Ingr} = .05, p = .43$; $r_{A \times Legt} = .07, p = .25$; $r_{O \times Rat} = .08, p = .22$, $r_{N \times Press} = .02, p = .77$). A negative relationship was predicted between agent Conscientiousness and Pressure (H3d). This negative relationship was not significant ($r_{C \times Press} = -.08, p = .20$). Lastly, attachment styles were tested as possible antecedents of target effects for influence tactic use. Anxious attachment was hypothesized to be positively related to target effects for Pressure (H7d) and Avoidant attachment was hypothesized to be positively related to target effects for Rational Persuasion (H8c) and Ingratiation (H8d). None of the hypothesized relationships between attachment style and target effects for influence tactic use was supported ($r_{Anx \times Press} = .06, p = .39$; $r_{Avd \times Rat} = -.07, p = .30$; $r_{Avd \times Ingr} = -.06, p = .36$). In all, there were no significant relationships between attachment styles and target effects for influence tactic use.

The relationship between interpersonal complementarity and relationship specific influence tactic use was tested using iterative multiple regression models. This study hypothesized that dyadic similarity in Assertiveness would predict Hard influence tactic use (H9a) and dyadic dissimilarity in Agreeableness would positively predict Soft influence tactic use (H9b). Neither hypothesis was supported as neither interaction term was significant, nor was there significant improvement of the model or ΔR^2 . The results of this analysis are presented in Table 4.

In order to test the effect of social exchange quality on influence tactic use, this study examined the interpersonal correlations between influence tactic use and LMX. In the current analysis, the interpersonal correlation is the correlation between the relationship specific components (controlling for individual level agent and target effects of both the agent and the target) of influencing agent reports of LMX and influence target reports of influence tactics received. Agent reports of LMX were hypothesized to be positively related to target reports of receiving Soft influence tactics (10a) and negatively related to receiving Hard influence tactics (10b). The results of this analysis are presented in Table 5. The positive relationship between LMX and Soft influence tactic use was supported. Agent reported LMX was positively related with five out of six of the Soft influence tactics (Rational Persuasion: $r = .17, p = .00$; Consultation: $r = .14, p = .00$; Inspirational Appeals: $r = .17, p = .00$; Ingratiation: $r = .17, p = .00$; Personal Appeals: $r = .17, p = .00$). The negative relationship between agent reported LMX and Hard influence tactic use was not supported. No significant negative relationships existed between LMX and Hard influence tactics. Overall, LMX had a weaker relationship with Hard influence tactic use than Soft influence tactic use with only one tactic out of three having a significant positive relationship (Legitimizing: $r = .09, p = .01$). The relationship between social exchange quality and Pressure was negative but insignificant (Pressure: $r = -.05, p = .92$).

In order to test the effect of influence tactic use on social exchange quality, I examined the intrapersonal correlations between influence tactics and LMX. In the current analysis, the intrapersonal correlation is the correlation between the relationship specific components (controlling for individual level agent and target effects of both the agent and the target) of influence target reports of receiving influence tactics and target reports of social exchange quality. Receiving Soft influence tactics was hypothesized to be positively related to target

reports of LMX (11a) and receiving hard influence tactics was hypothesized to be negatively related to target reports of social exchange quality (11b). The relationship between receiving soft influence and reporting positive social exchange quality was supported. Five out of six of the soft influence tactics had significant positive relationships with target reported LMX (Rational Persuasion: $r = .33, p = .01$; Consultation: $r = .31, p = .04$; Inspirational Appeals: $r = .28, p = .00$; Ingratiation: $r = .26, p = .04$; Personal Appeals: $r = .33, p = .00$). The exception was Exchange tactics ($r = .09, p = .51$), which was positive but insignificant. The negative relationship between receiving Hard influence tactics and LMX was not supported. No significant negative relationships between Hard influence tactic use and LMX were found. Overall, Hard influence tactics had a weaker relationship with LMX than Soft tactics with only one hard tactic out of three having a significant positive relationship (Legitimizing: $r = .15, p = .01$).

CHAPTER 9: DISCUSSION

These results of this study provide evidence that the variance in retrospective target reports of influence behavior is driven primarily by the target. Because the target was the rater of influence tactic use in this study, the observed target variance in influence tactic use could be due to either the influence tactics consistently received by the target or the tactics consistently perceived by the target. Both possibilities are potentially interesting. If variance is driven by the tactics received by targets, then different agents consistently use the same tactics on given targets and influence behavior is largely about tactic-target matching. If variance is driven by the tactics that targets perceive, then the target experience of influence is less about what the agent is doing and more about how the target consistently perceives influence behavior. If the latter is true, then it raises several interesting questions: What drives differences in targets' perceptions of influence behavior? Which is more important to influence effectiveness, what the agent does or what the target perceives?

More work needs to be done to differentiate influence tactic reception and perception. The most direct way to address this issue would be to conduct a very similar study using influence agent reports of tactics use. This approach would help determine the extent to which different agents are selecting similar tactics for a given target. A study collecting both agent and target reports of influence tactic use would help determine the extent to which target perceptions matched target reception. Target variance in this study may be inflated by the style of the surveys used to collect information on influence tactic use. In the surveys used for this study, respondents rated the frequency of use of one influence tactic (e.g., Rational Persuasion) across all team members on a single page. If some respondents responded in blocks, rating all members of the team equally for a given tactics, then the target variance would be elevated while agent

and relationship components would be damped. Future studies could verify these results using alternate response formats, for instance rating all tactics for a given team member on a single page. Of note, if the target/rater variance in this study is elevated due to survey artifacts, some of the more interesting results of this study for agent and relationship effects may be even stronger.

The variance partitioning results showed several interesting results in addition to the strong target variance. There was non-negligible group variance for Personal Appeal (0.09, CI [0.03, 0.15]) and Pressure tactics (0.09, CI [0.03, 0.15]), the latter driven largely by differences among military academy groups. There were also differences across tactics in the amount of agent variance. Rational Persuasion (0.24, CI [0.15, 0.34]) and Inspirational Appeals (0.17, CI [0.09, 0.25]) had the most agent variance, whereas Exchange (0.02, CI [0.00, 0.05]), Personal Appeals (0.00, CI [0.00, 0.00]), and Coalitions (0.01, CI [0.00, 0.03]) had negligible agent variance. After target variance, relationship variance had the strongest effect across tactics.

Although the majority (15 out of 18) of hypothesized relationships between individual differences and individual level effects for influence tactic use were not significant, post hoc investigation of the results support the general assertion that individual differences are likely related to individual level effects of influence tactic use. The hypothesized relationships were based on the best available data from studies that correlated individual differences to influence tactics conflating all relevant levels of analysis. This study is the first to investigate influence tactic use simultaneously accounting for all appropriate levels of analysis. As such, it is not surprising that the previously reported relationships did not replicate when a more precise analysis was applied. Hopefully, this study will be seen as an early step in the right direction in understanding the relationship between individual differences and individual level effects and can provide more accurate guidance for future studies.

Several interpretable patterns emerge on post hoc examination of the correlations between individual differences and individual level effects for influence tactic use. With respect to agent effects, Extraversion, Assertiveness (a facet of Extraversion), and Conscientiousness demonstrated relatively strong positive relationships with several tactics, indicating that Extraverted, Assertive and Conscientious agents broadly use more influence tactics. These finding is consistent with previous studies accounting only at the individual level of analysis (Kyl-Heku & Buss, 1996). Not surprisingly, all three of these personality facets were related to total influence within a group. Several other individual differences showed logical relationships with specific tactics: Agreeable agents consult more with their targets, Open-minded agents use more Inspirational Appeal, Neurotic agents use more Pressure, and Avoidant agents use fewer interpersonal tactics (Consultation and Ingratiation).

The relationships between individual differences and target effects for influence tactic use were generally weaker. The significant relationships that do emerge have good face validity: Neurotic targets receive less Consultation and Agreeable targets receive more Personal Appeals. Although not hypothesized in this study, interesting relationships between individual differences and target effects for responses to influence attempts can be seen: Conscientious targets express more Commitment, Neurotic targets are significantly more Resistant and report lower quality relationships with fellow team members, whereas Agreeable targets report more positive relationships with their team.

There was no evidence that interpersonal complementarity was related to the relationship specific use of Hard and Soft Influence. In the null model and model 1, which added agent and rater individual difference variables, none of the regression coefficients were significant, as was expected. The independent variables in Model 1 were all at the level of the individual, and thus

had theoretically already been controlled when the dyadic relationship component of influence tactic use was isolated from the individual level agent and rater components as part of the Social Relations Analysis (SRA). Future studies could use multiple measures of individual influence tactics, thereby allowing for better estimation of relationship components of more precise tactics vice broader influence styles.

This study just scratches the surface of what could be done with respect to investigating the relationship between interpersonal relationships (i.e., LMX) and interpersonal behavior. SRA provides an excellent lens for investigating the many interacting levels of analysis at play when considering the relationship between two round robin variables (Back and Kenny, 2010). In the case of the relationship between LMX and the influence tactics used within that dyad, SRA enables the researcher to begin to pick apart the layers of what is likely an iterative process: the quality of dyadic social exchange relationships likely contribute to the selection of the influence tactics used within that relationship, and the influence tactics used in a dyadic relationship likely shape the quality of the social exchange relationship. This study provides a fair model for analyzing this process. SRA isolates relationship specific components of both influence tactic use and social exchange quality by subtracting out the general behavioral and response patterns of the agent and the target. Round robin reports enable the investigator to consider both agent and target perspectives of LMX, thus giving some insight into the role of social exchange quality both as a cause and an effect of influence tactic use. In this analysis, there is a consistent pattern of relationships (both in the aggregated LMX and in the LMX sub-facets) between agent reported LMX and soft influence tactic use as reported by the target. Likewise, there is a consistent pattern of relationships between receiving soft influence tactics and reporting higher quality LMX. Interestingly, Exchange tactics do not demonstrate the same

positive relationships with LMX, especially for LMX as an antecedent. This makes some sense in that Exchange is probably the least social and personal of the Soft tactics, and therefore would be less related with social exchange. Conversely, contrary to hypotheses and unlike the other hard influence tactics, Legitimizing was positively related to LMX both as an antecedent and an outcome. The relationship between Legitimizing and LMX as an outcome was driven by the Respect dimension.

One limitation of the interpersonal analysis of social exchange as an outcome of influence tactic use is the use of a common rater for both variables. This limitation is mitigated somewhat in that relationship quality, which might be a confound introduced by the common rater, is explicitly measured. The common rater does however impact the interpretability of the results. It is not possible to determine whether the social exchange quality as reported by the target is a result of the influence tactics received or if the reports of influence tactics received might be a result of the social exchange relationship. It is plausible that high quality relationships, for instance, might temper reports of negative influence tactics used. The relationship between influence tactics received and social exchange relationships could be clarified in future studies using agent reports of influence tactic use. Additionally, a longitudinal design would greatly facilitate the interpretability of any analysis seeking to understand a process such as the interplay between interpersonal relationships and behaviors.

FIGURES AND TABLES

Table 1 *Definitions of Commonly Studied Influence Tactics*

Rational persuasion	The agent uses logical arguments and factual evidence to show that a request or proposal is feasible and relevant for important task objectives.
Consultation	The agent asks the target person to suggest improvements or help plan a proposed activity or change for which the target person's support is desired.
Inspirational appeals	The agent appeals to the target's values and ideals or seeks to arouse the target person's emotions to gain commitment for a request or proposal.
Ingratiation	The agent uses praise and flattery before or during an attempt to influence the target person to carry out a request or support a proposal.
Exchange	The agent offers something the target person wants, or offers to reciprocate at a later time, if the target will do what the agent requests.
Personal appeals	The agent asks the target to carry out a request or support a proposal out of friendship, or asks for a personal favor before saying what it is.

Legitimizing tactics	The agent seeks to establish the legitimacy of a request or to verify that he/she has the authority to make it.
Coalition tactics	The agent enlists the aid of others, or uses the support of others, as a way to influence the target to do something.
Pressure	The agent uses demands, threats, frequent checking, or persistent reminders to influence the target to do something.

Definitions derived from Yukl, Seifert, & Chavez (2008). Tactics above the dotted line load on a Soft influence factor and tactics below the line load on a Hard influence factor (Mullaney, 2011).

Figure 1 Estimating Agent, Target, and Relationship Component Effects in a Hypothetical Round Robin Data Set

Raw Data (X_{ij})

		Target/Rater j				Row Mean ($M_{i.}$)	Agent Effects (a_i)
		A	B	C	D		
Agent i	A	-	3	5	6	4.67	1.13
	B	2	-	1	7	3.33	-0.75
	C	4	3	-	2	3.00	-1.13
	D	6	3	3	-	4.00	0.75
Column Mean ($M_{.j}$)		4	3	3	5		
						3.75	($M_{..}$)
Target Effects (b_j)		0.63	-1.00	-1.13	1.50		Group Mean

$$a_i = \frac{(n-1)^2}{n(n-2)} M_{i.} + \frac{n-1}{n(n-2)} M_{.i} - \frac{n-1}{n-2} M_{..}$$

$$b_j = \frac{(n-1)^2}{n(n-2)} M_{.j} + \frac{n-1}{n(n-2)} M_{.i} - \frac{n-1}{n-2} M_{..}$$

$$g_{ij} = X_{ij} - a_i - b_j - M_{..}$$

Relationship Effects (g_{ij})

		Target/Rater j			
		A	B	C	D
Agent i	A	-	-0.88	1.25	-0.38
	B	-1.63	-	-0.88	2.50
	C	0.75	1.38	-	-2.13
	D	0.88	-0.50	-0.38	-

Modeled after Kenny et al. (2006) Table 8.4

$M_{..}$: Group Mean

$M_{i.}$: Row Mean

$M_{.j}$: Column Mean

X_{ij} : i 's score on variable X as reported by j

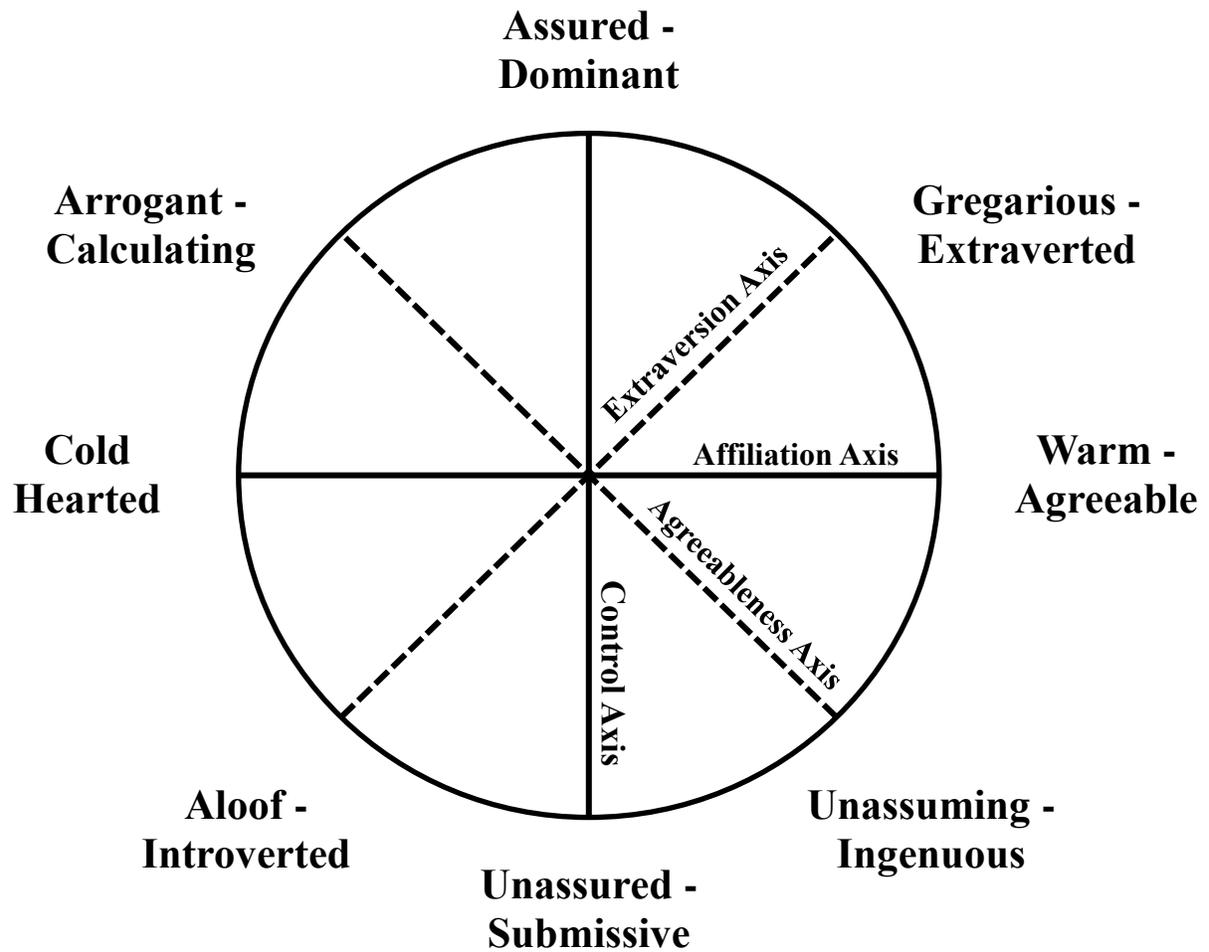
n : number of members in the group

a_i : Agent Effect for i as an agent

b_j : Target Effect for j as a target

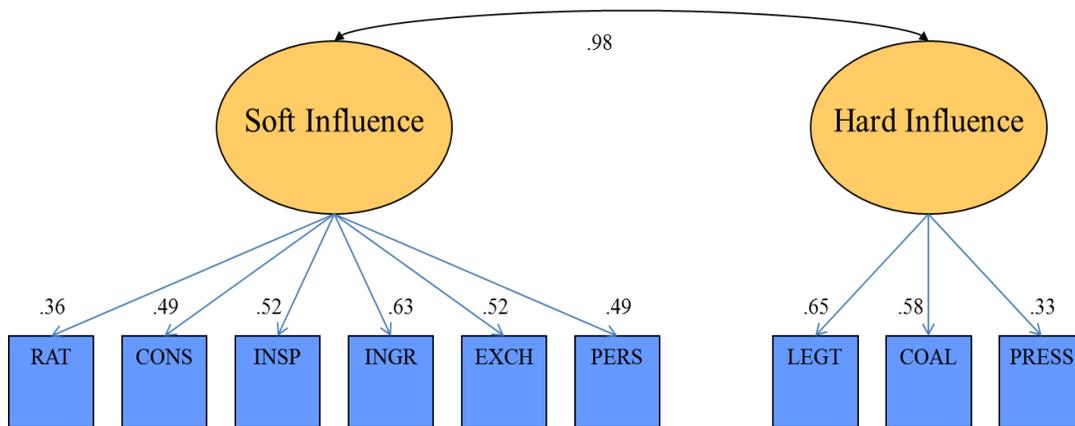
g_{ij} : Relationship Effect between i and j

Figure 2 *Interpersonal Circumplex Overlaid with Big 5 Extraversion and Agreeableness*



Solid lines represent the circumplex as described by Wiggins (1995). Dashed lines represent the 45° rotation of Extraversion and Agreeableness with respect to Control and Affiliation (McCrae & Costa, 1989).

Figure 3 *Confirmatory Factor Analysis Results for 2 Factor Model of Hard and Soft Influence*



$N = 1955; \chi^2_{26} = 327$ RMSEA = .077; NNFI = .92; CFI = .94

Figure 4
Six Componential Correlations Resulting from the Analysis of Two Round Robin Network Variables

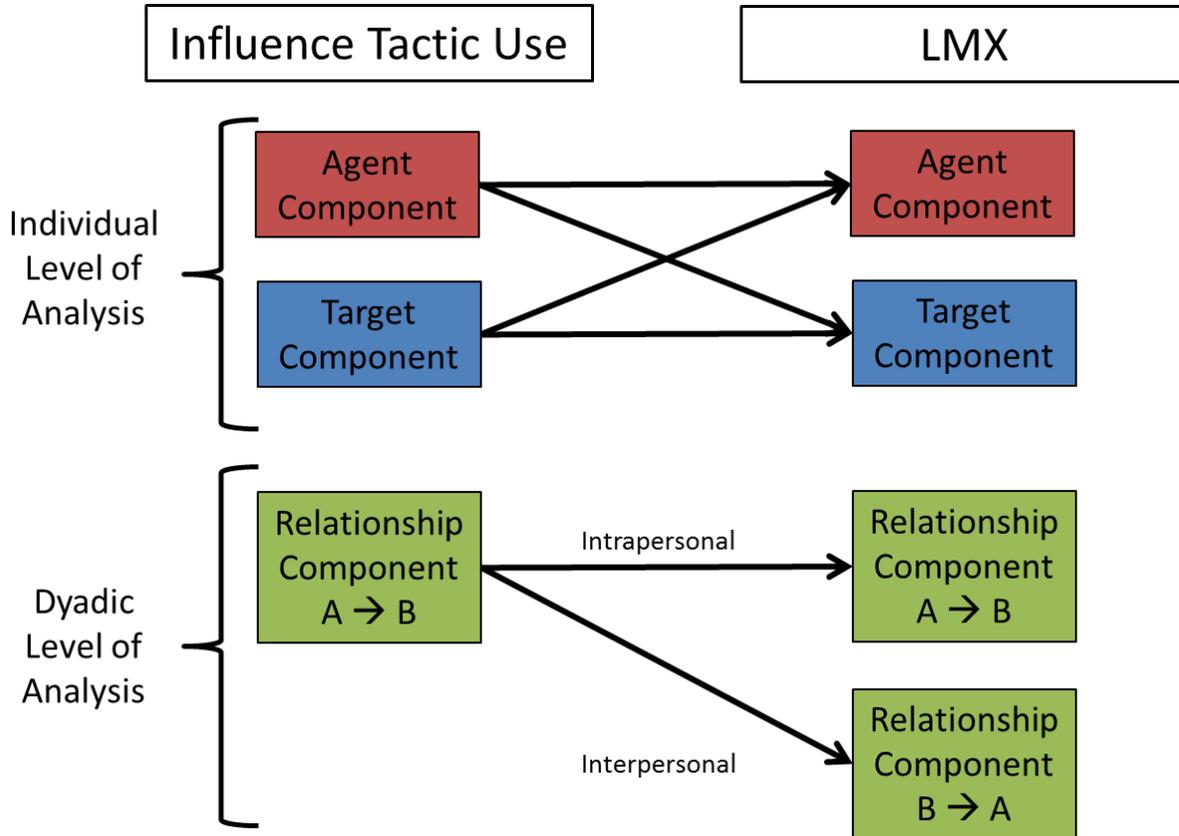


Table 2a: *Unstandardized Component Variances for Influence Tactic Use*

	Mean *	SD *	Target/Rater Variance CI		Agent Variance CI		Relationship Variance ¹ CI		Group Variance CI	
Rational Persuasion	3.37	1.09	0.33	[0.18, 0.48] ^{a, b}	0.24	[0.13, 0.35] ^a	0.54	[0.42, 0.66] ^b	0.00	[0.00, 0.06] ^c
Consultation	3.13	1.10	0.58	[0.45, 0.71] ^a	0.07	[0.00, 0.14] ^b	0.46	[0.37, 0.55] ^a	0.00	[0.00, 0.06] ^b
Inspirational Appeals	2.92	1.15	0.62	[0.46, 0.78] ^a	0.17	[0.09, 0.25] ^b	0.48	[0.40, 0.56] ^a	0.01	[0.00, 0.07] ^c
Ingratiation	2.72	1.12	0.86	[0.68, 1.04] ^a	0.09	[0.03, 0.15] ^b	0.31	[0.25, 0.37] ^c	0.01	[0.00, 0.07] ^b
Exchange	2.14	1.09	0.90	[0.70, 1.10] ^a	0.02	[0.00, 0.05] ^b	0.27	[0.19, 0.35] ^c	0.04	[0.00, 0.07] ^b
Personal Appeals	2.06	1.01	0.61	[0.48, 0.74] ^a	0.00	[0.00, 0.00] ^b	0.33	[0.21, 0.45] ^c	0.09	[0.03, 0.15] ^d
Legitimizing	3.03	1.12	0.85	[0.66, 1.04] ^a	0.08	[0.03, 0.13] ^b	0.30	[0.24, 0.36] ^c	0.01	[0.00, 0.07] ^b
Coalitions	2.27	1.10	0.91	[0.75, 1.07] ^a	0.01	[0.00, 0.03] ^b	0.24	[0.19, 0.29] ^c	0.03	[0.00, 0.09] ^b
Pressure	1.86	1.03	0.49	[0.38, 0.60] ^a	0.11	[0.04, 0.18] ^b	0.35	[0.26, 0.44] ^a	0.09	[0.03, 0.15] ^b

* Raw Mean and Standard Deviations not controlling for group and dyad membership

¹ Relationship variance is confounded with error

^{a, b, c, d}: Confidence Intervals with different superscript do not overlap

Figure 5 *Proportional Component Variances for Influence Tactic Use*

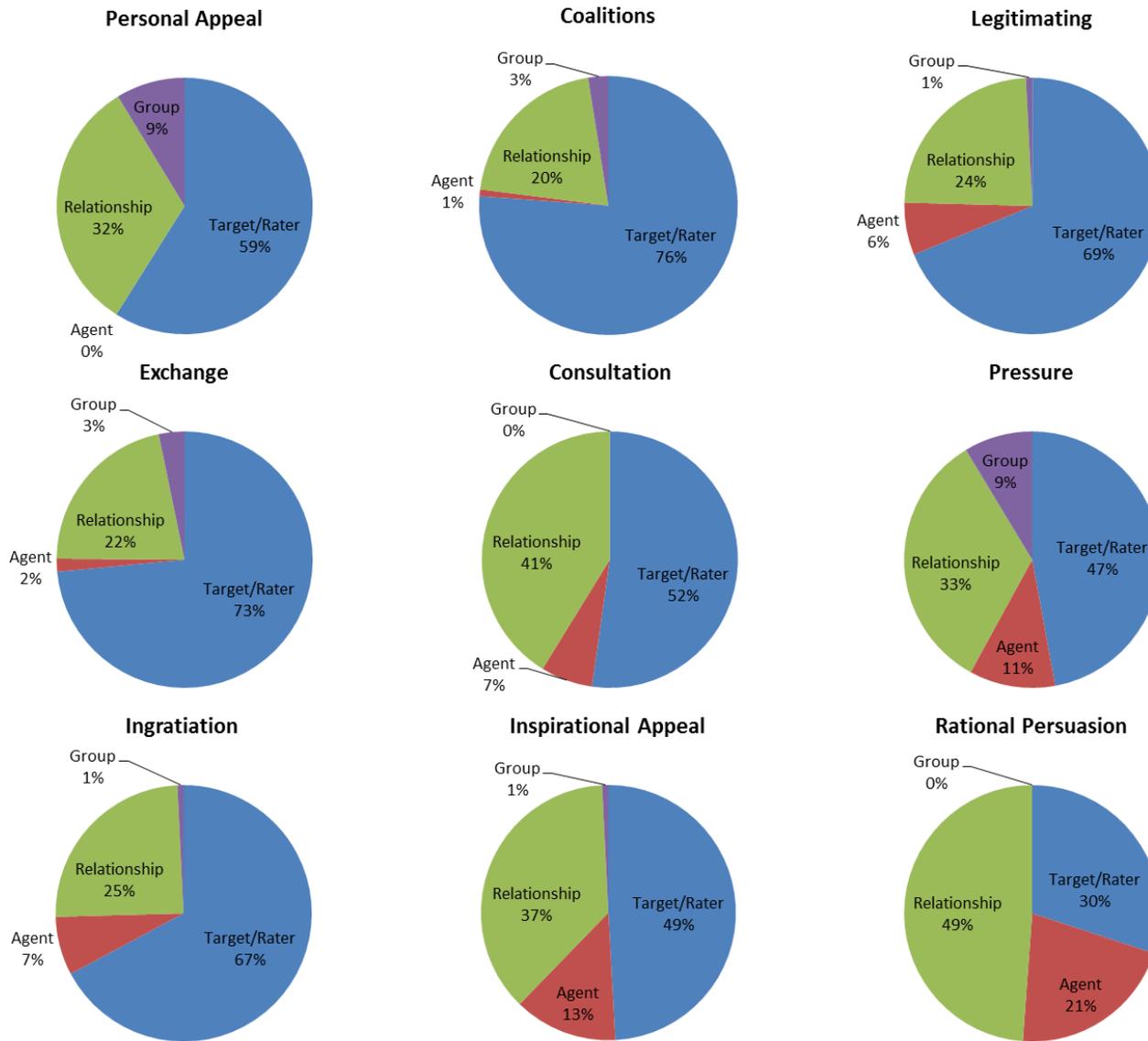


Table 2b *Standardized Agent, Target, and Relationship Variance for Influence Tactics Across Subgroups*

	Sources of Variance				Group
	Rater/Target	Agent	Relationship ^a		
Rational Persuasion	.30	.21	.49	.00	
Civilian Business	.35	.22	.43	.00	.00
Civilian Engineers	.30	.29	.41	.00	.00
Military Engineers	.25	.16	.51	.08	.08
Consultation	.52	.07	.41	.00	
Civilian Business	.61	.05	.34	.00	.00
Civilian Engineers	.47	.14	.39	.00	.00
Military Engineers	.49	.03	.48	.00	.00
Inspirational Appeal	.49	.13	.37	.01	
Civilian Business	.50	.19	.31	.00	.00
Civilian Engineers	.54	.14	.32	.00	.00
Military Engineers	.42	.11	.45	.02	.02
Ingratiation	.67	.07	.25	.01	
Civilian Business	.55	.09	.35	.00	.00
Civilian Engineers	.72	.10	.18	.00	.00
Military Engineers	.62	.06	.25	.06	.06
Exchange	.73	.02	.22	.03	
Civilian Business	.77	.00	.17	.05	.05
Civilian Engineers	.82	.01	.17	.00	.00
Military Engineers	.54	.03	.30	.12	.12
Personal appeal	.59	.00	.32	.09	
Civilian Business	.44	.00	.48	.08	.08
Civilian Engineers	.70	.00	.30	.00	.00
Military Engineers	.63	.03	.28	.06	.06
Legitimizing	.69	.07	.24	.01	
Civilian Business	.60	.07	.25	.08	.08
Civilian Engineers	.76	.06	.17	.00	.00
Military Engineers	.58	.07	.28	.07	.07
Coalitions	.76	.01	.20	.03	
Civilian Business	.75	.02	.23	.00	.00
Civilian Engineers	.79	.02	.19	.00	.00
Military Engineers	.70	.01	.21	.09	.09
Pressure	.47	.11	.33	.09	
Civilian Business	.61	.02	.37	.00	.00
Civilian Engineers	.50	.14	.36	.00	.00
Military Engineers	.38	.11	.30	.21	.21

^a Relationship Variance Confounded with Error

Table 3a *Correlations between Individual Differences and Agent Effects of Round Robin Variables*

	Personality						Attachment Styles	
	Assert	E	A	C	N	O	Anxious	Avoidant
Rational Persuasion	.29*	.08	.11	.25*	<i>-.06</i>	.07	-.09	-.05
Consultation	.19*	.16*	.18*	.11	-.05	.00	-.05	-.20*
Inspirational Appeal	.28*	.20*	.11	.16*	-.10	.17*	-.03	-.11
Ingratiation	.25*	.27*	.09	.12	.01	.00	.06	-.17*
Exchange	.20*	.25*	.03	.07	.02	-.02	.09	-.09
Legitimizing	.24*	.13*	.08	.13*	.07	-.01	.02	-.03
Coalitions	.28*	.19*	.05	.20*	.01	.06	-.02	-.11
Pressure	.21*	.14*	.03	.21*	.14*	.01	-.05	-.02
Commitment	.15*	.04	.08	.11	.04	-.03	.03	.03
Compliance	.12	.11	.02	.09	.07	-.05	.01	.01
Reluctant Compliance	.31*	.16*	.13*	.17*	-.01	.07	-.05	-.05
Resistance	.01	.04	-.01	-.01	.00	.00	.04	.04
LMX	.16*	.04	.11	.12	-.07	-.02	-.06	-.06
Total Influence	.29*	.14*	.12	.24*	-.09	.08	.08	-.08

Italics indicate hypothesized relationships

* $p < .05$

Table 3b *Correlations between Individual Differences and Target/Rater Effects of Round Robin Variables*

	Personality						Attachment Styles	
	Assert	E	A	C	N	O	Anxious	Avoidant
Rational Persuasion	.08	.02	.12	.06	-.05	.08	.01	.07
Consultation	.11	.04	.05	.12	-.13*	.11	-.01	-.05
Inspirational Appeal	.03	.13*	.06	.11	-.04	.05	.03	-.01
Ingratiation	.09	-.04	.04	.05	-.07	.09	.05	-.06
Exchange	.07	.06	.08	-.02	.00	.06	.09	-.09
Personal Appeals	.12	.13*	.14*	.03	-.01	.11	.03	-.12
Legitimizing	.04	.00	.07	.12	.05	-.01	.04	-.07
Coalitions	.09	-.01	.04	.12	-.04	.06	.01	-.08
Pressure	-.07	.03	-.04	-.08	.02	-.05	.06	-.10
Commitment	.03	-.09	.06	.12*	-.06	.05	.00	-.01
Compliance	.12	-.02	-.01	.05	-.08	.11	-.03	-.01
Reluctant Compliance	.08	-.03	.04	-.05	.01	.06	-.06	-.01
Resistance	.08	.05	-.04	-.08	.16*	.04	.00	.04
LMX	-.05	.09	.25*	.13*	-.13*	.10	-.08	.07
Total Influence	-.06	.09	.16*	.06	.05	.11	-.07	.00

Italics indicate hypothesized relationships

* $p < .05$

Table 4 *Interpersonal Complementarity Predicting Hard and Soft Influence Tactic Use*

Variable Entered	Model 1		Model 2	
	Estimate	SE	Estimate	SE
Hard Influence Tactic Use				
Control Variables				
Agent Gender	.00	.02	.00	.02
Agent Age	.00	.00	.00	.00
Agent Race	.00	.02	.00	.02
Agent SES	.00	.02	.00	.02
Agent Leadership Exp	.01	.02	.01	.02
Target Gender	.00	.02	.00	.02
Target Age	.00	.00	.00	.00
Target Race	.00	.01	.00	.01
Target SES	.00	.02	.00	.02
Target Leadership Exp	-.01	.02	-.01	.02
Main Effects				
Agent Assertiveness (AAssert)	.00	.02	-.10	.07
Target Assertiveness (TAssert)	.00	.02	-.10	.07
Two-way Interactions				
AAssert X TAssert			.03	.02
R^2	.000		.002	
ΔR^2			.002	
df	1398		1397	
Soft Influence Tactic Use				
Control Variables				
Agent Gender	.00	.03	.00	.03
Agent Age	.00	.01	.00	.01
Agent Race	.00	.01	.00	.01
Agent SES	.00	.03	.00	.03
Agent Leadership Exp	.00	.02	.00	.02
Target Gender	.00	.00	.00	.00
Target Age	.00	.01	.00	.01
Target Race	.00	.01	.00	.01
Target SES	-.01	.03	-.01	.03
Target Leadership Exp	-.01	.02	-.01	.02
Main Effects				
Agent Agreeableness (AA)	.00	.02	-.06	.10
Target Agreeableness (TA)	.00	.02	-.06	.10
Two-way Interactions				
AA X TA			.02	.03
R^2	.000		.000	
ΔR^2			.000	
df	1337		1336	

Hypothesis 9A: Dyadic similarity in Assertiveness predicts hard influence tactics use.

Hypothesis 9B: Dyadic dissimilarity in Agreeableness predicts soft influence tactic use

Table 5 *Interpersonal and Intrapersonal Correlations of LMX and Influence Tactic Use*

Interpersonal Correlations: LMX as Antecedent of Influence Tactic Use									
	Soft Tactics						Hard Tactics		
	Rational Persuasion	Consultation	Inspirational Appeals	Ingratiation	Exchange	Personal Appeals	Legitimizing	Coalitions	Pressure
Affect	.14*	.17*	.12	.10	.04	.28*	.06	-.02	-.04
Loyalty	.19*	.10	.11*	.00	.04	.30*	.08*	.02	-.04
Respect	.08	.10	.04	.05	.00	.15	.08	-.06	-.12
Contribution	.11	.06	.16	.10	.08	.17*	.10*	.03	.02
LMX	.17*	.14*	.14*	.11*	.06	.30*	.09*	.00	-.05

Intrapersonal Correlations: LMX as Outcome of Influence Tactic Use									
	Soft Tactics						Hard Tactics		
	Rational Persuasion	Consultation	Inspirational Appeals	Ingratiation	Exchange	Personal Appeals	Legitimizing	Coalitions	Pressure
Affect	.22*	.27*	.20*	.25*	.11*	.28*	.06	.00	-.10
Loyalty	.23*	.24*	.19*	.00	.04	.32*	.10	.07	-.02
Respect	.39*	.29*	.33*	.15*	.08	.17*	.21*	.14*	.02
Contribution	.21*	.19*	.16*	.13*	.11*	.22*	.08	.09	.14*
LMX	.33*	.31*	.28*	.26*	.09	.33*	.15*	.10	.00

* $p < .05$

Table 6a *Covariances of Agent Effects of Round Robin Variables*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Rational Persuasion														
2. Consultation	.14*													
3. Inspirational Appeal	.21*	.11*												
4. Ingratiation	.10*	.07*	.07*											
5. Exchange	.05*	.03	.02	.03*										
6. Personal Appeals	.03	.00	.02	.02	.01									
7. Legitimizing	.12*	.05*	.07*	.05*	.04*	.02								
8. Coalitions	.07*	.04*	.05*	.03*	.03*	.02	.04*							
9. Pressure	.11*	.04*	.05*	.02	.02	.02	.08*	.04*						
10. Commitment	.18*	.10*	.13*	.07*	.04*	.01	.07*	.06*	.06*					
11. Compliance	.11*	.07*	.08*	.07*	.04*	.01	.06*	.04*	.05*	.08*				
12. Reluctant Compliance	.13*	.06*	.11*	.06*	.04*	.00	.06*	.04*	.05*	.07*	.05*			
13. Resistance	-.03	-.04*	-.03	-.04*	-.01	.01	.00	-.02	.02	-.03*	-.03*	-.01		
14. LMX	.16*	.11*	.12*	.08*	.05*	.00	.06*	.06*	.05*	.10*	-.03*	.07*	-.03	
15. Total Influence	.44*	.23*	.35*	.17*	.11*	.07*	.18*	.15*	.18*	.28*	.18*	.21*	-.06*	.27*

* $p < .05$

Table 6b *Covariances of Target Effects of Round Robin Variables*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Rational Persuasion														
2. Consultation	.25*													
3. Inspirational Appeal	.21*	.28*												
4. Ingratiation	.23*	.38*	.32*											
5. Exchange	.15*	.18*	.27*	.28*										
6. Personal Appeals	.13*	.20*	.22*	.30*	.38*									
7. Legitimizing	.28*	.30*	.39*	.40*	.38*	.24*								
8. Coalitions	.16*	.25*	.25*	.38*	.27*	.36*	.35*							
9. Pressure	.04	.16*	.11*	.18*	.16*	.20*	.18*	.31*						
10. Commitment	.18*	.22*	.18*	.29*	.14*	.08	.19*	.13*	-.01					
11. Compliance	.10*	.16*	.12*	.12*	.10	.03	.01	.08	-.02	.25*				
12. Reluctant Compliance	.16*	.26*	.22*	.28*	.32*	.27*	.28*	.31*	.18*	.31*	.31*			
13. Resistance	.04	.14*	.10*	.13*	.17*	.21*	.13*	.21*	.14*	.02	.01	.25*		
14. LMX	.10*	.15*	.16*	.18*	.12*	.12*	.07	.17*	.03	.15*	.15*	.16*	-.03	
15. Total Influence	.06	.09	.15*	.12*	.11	.17*	.09	.16*	.07	.10*	.11*	.16*	.06	.24*

* $p < .05$

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APPENDIX A: ADDITIONAL TABLES

Table A1: *Unstandardized Component Variances for Influence Outcomes and LMX*

	Mean *	SD *	Target/Rater Variance CI		Agent Variance CI		Relationship Variance ¹ CI		Group Variance CI	
Commitment	3.38	1.04	0.54	[0.41, 0.68] ^a	0.12	[0.07, 0.18] ^b	0.35	[0.29, 0.42] ^a	0.05	[0.00, 0.13] ^b
Compliance	3.58	1.02	0.65	[0.48, 0.81] ^a	0.07	[0.02, 0.11] ^b	0.28	[0.21, 0.36] ^c	0.03	[0.00, 0.11] ^b
Reluctant Compliance	2.48	1.18	1.01	[0.81, 1.21] ^a	0.05	[0.01, 0.09] ^b	0.37	[0.30, 0.45] ^c	0.00	[0.00, 0.06] ^b
Resistance	1.56	0.83	0.48	[0.33, .063] ^a	0.02	[0.00, 0.06] ^b	0.19	[0.11, 0.27] ^c	0.04	[0.00, 0.08] ^b
Affect	5.77	1.04	0.40	[0.25, 0.56] ^a	0.16	[0.05, 0.26] ^{a, b}	0.75	[0.57, 0.92] ^c	0.13	[0.03, 0.23] ^b
Loyalty	5.43	1.41	0.82	[0.58, 1.06] ^a	0.11	[0.00, 0.24] ^b	0.87	[0.65, 1.09] ^a	0.24	[0.12, 0.36] ^b
Respect	5.83	1.21	0.38	[0.28, 0.49] ^a	0.28	[0.16, 0.41] ^a	0.69	[0.54, 0.84] ^b	0.05	[0.00, 0.15] ^c
Contribution	4.64	1.45	1.38	[1.06, 1.69] ^a	0.07	[0.04, 0.15] ^b	0.51	[0.39, 0.62] ^c	0.16	[0.06, 0.26] ^b
LMX	5.42	1.01	0.42	[0.29, 0.55] ^a	0.11	[0.04, 0.19] ^b	0.39	[0.30, 0.48] ^a	0.11	[0.01, 0.21] ^b
Total Influence	5.21	1.39	0.34	[0.19, 0.48] ^{a, b}	0.25	[0.14, 0.37] ^a	0.53	[0.42, 0.65] ^b	0.00	[0.00, 0.10] ^c

* Raw Mean and Standard Deviations not controlling for group and dyad membership

¹ Relationship variance is confounded with error

^{a, b, c} : Confidence Intervals with different superscript do not overlap

Figure A1a *Standardized Componential Variances of Influence Outcomes*

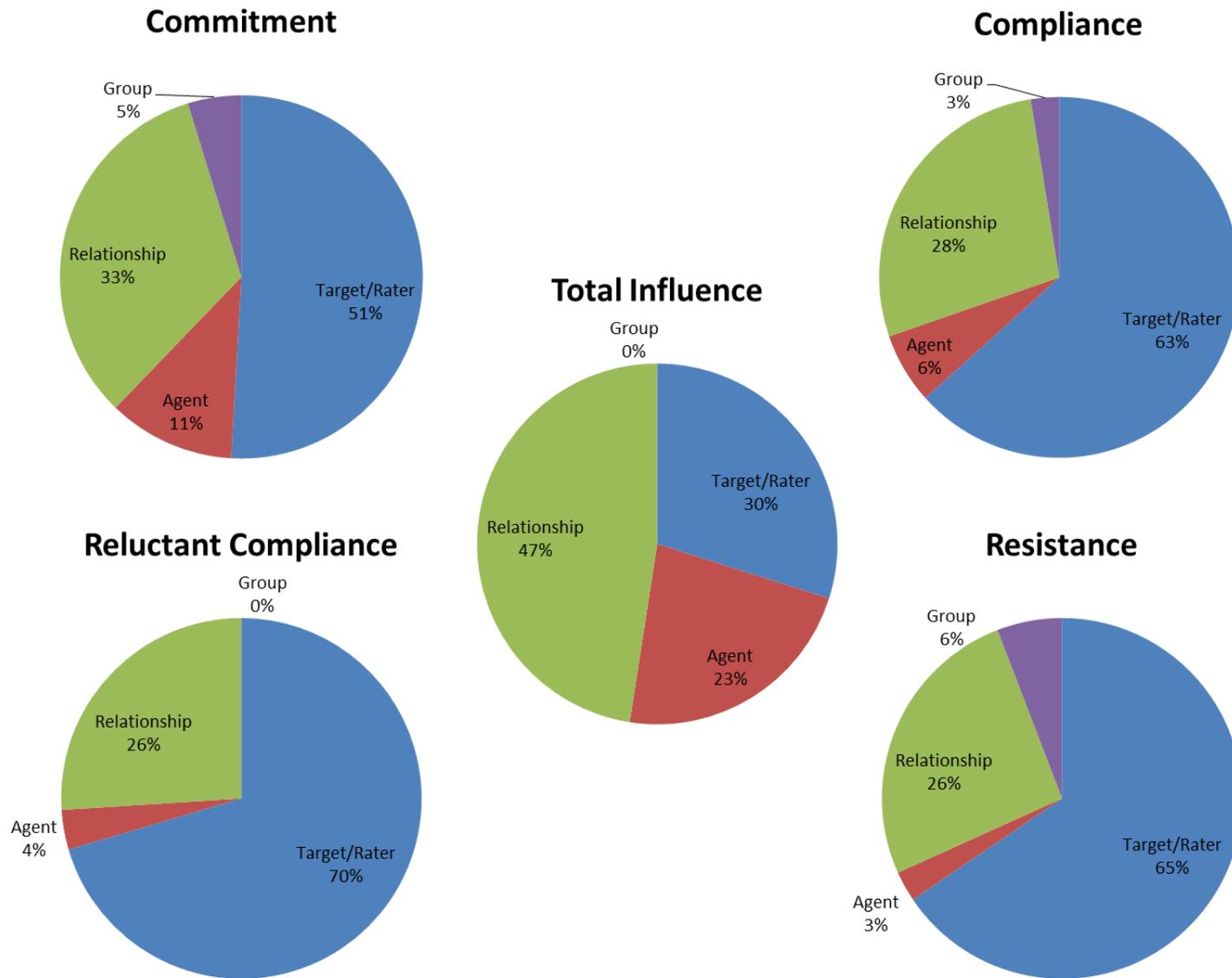


Figure A1b Standardized Componential Variances for LMX Facets

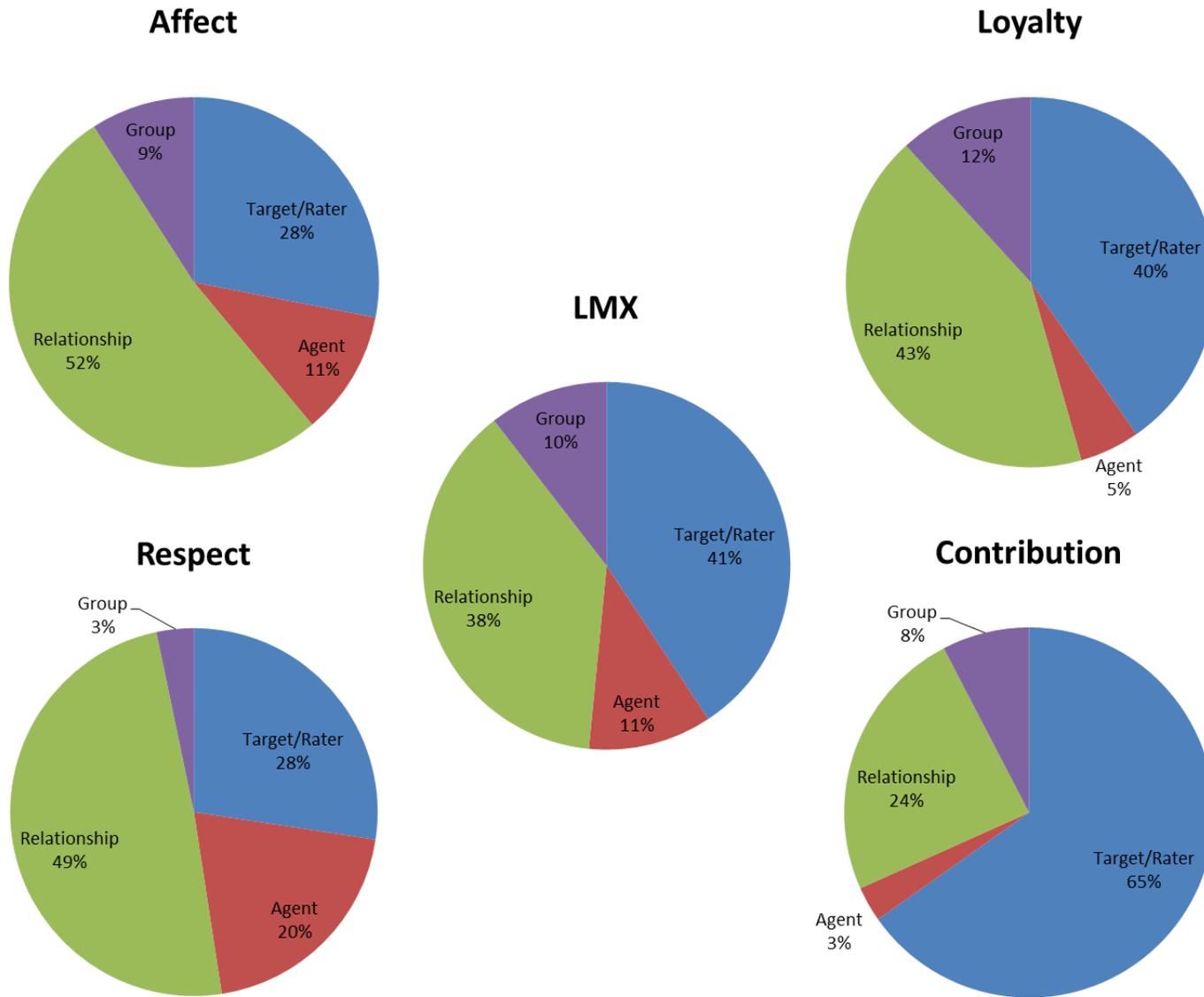


Table A2 *Correlations Between Control Variables and Agent Effects of Round Robin Variables*

	Gender	Age	Parental Education	Family Size	Leadership Experience
Rational Persuasion	-.03	-.03	.16*	.06	.32*
Consultation	-.05	-.03	.07	.07	.21*
Inspirational Appeal	-.01	.03	.18*	.02	.28*
Ingratiation	-.15*	.04	.14*	.10	.36*
Exchange	-.15*	.02	.06	-.01	.26*
Legitimizing	-.18*	.03	.04	.04	.31*
Coalitions	-.18*	.02	.11	-.03	.25*
Pressure	-.15*	-.04	.08	.00	.31*
Commitment	-.02	.00	.08	.03	.20*
Compliance	-.07	.00	-.03	.11	.21*
Reluctant Compliance	-.13	.03	.21*	.07	.35*
Resistance	-.04	.04	.01	-.02	.03
LMX	-.02	-.03	.12	.08	.23*
Total Influence	-.05	.00	.12	.05	.38*

Gender scored 1 = Female, 2 = Male

* $p < .05$

Table A3 *Correlations Between Control Variables and Target Effects of Round Robin Variables*

	Gender	Age	Parental Education	Family Size	Leadership Experience
Rational Persuasion	.02	-.08	-.00	.08	.13*
Consultation	.02	.00	-.00	.12	.18*
Inspirational Appeal	-.05	-.06	-.05	.01	.06
Ingratiation	.01	.09	.02	.04	.09
Exchange	-.02	.00	.04	.01	.08
Personal Appeals	.02	.01	.07	-.03	.12
Legitimizing	-.04	-.14*	.00	-.09	.06
Coalitions	.09	.07	-.10	.02	.07
Pressure	.11	-.16*	.02	-.10	.06
Commitment	.03	.07	.08	.01	.06
Compliance	.12	.08	.02	.08	.08
Reluctant Compliance	.08	.04	.12	.01	.04
Resistance	.08	.00	-.09	-.01	.05
LMX					
Total Influence	-.05	.04	.06	.04	.07

Gender scored 1 = Female, 2 = Male

* $p < .05$

Table A4 *Intrapersonal Covariances Among Round Robin Variables*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Rational Persuasion														
2. Consultation	.14*													
3. Inspirational Appeal	.15*	.12*												
4. Ingratiation	.07*	.10*	.09*											
5. Exchange	.05	.06*	.08*	.08*										
6. Personal Appeals	.06	.09*	.07*	.08*	.07*									
7. Legitimizing	.08*	.06	.08*	.04*	.05*	.03								
8. Coalitions	.07*	.08*	.08*	.05*	.02	.03	.02							
9. Pressure	.05	.03	.07*	.05*	.06	.07*	.06*	.04*						
10. Commitment	.15*	.14*	.10*	.10*	.05*	.08*	.07*	.04*	.03					
11. Compliance	.10*	.06*	.06*	.05*	.03	.06*	.05*	.04*	.04	.14*				
12. Reluctant Compliance	.12*	.10*	.09*	.08*	.04	.10*	.05*	.05*	.03	.13*	.12*			
13. Resistance	-.04	-.02	-.01	-.01	.01	.01	.00	-.01	.05*	-.04*	-.04*	-.04		
14. LMX	.15*	.13*	.12*	.09*	.03	.12*	.05*	.03	.00	.16*	-.04*	.13*	-.07*	
15. Total Influence	.23*	.17*	.17*	.07*	.03	.06*	.09*	.08*	.05	.18*	.12*	.17*	-.01	.27*

* $p < .05$

Table A5 *Interpersonal Covariances Among Round Robin Variables*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Rational Persuasion														
2. Consultation	.04													
3. Inspirational Appeal	.04*	.07*												
4. Ingratiation	.04	.03	.03											
5. Exchange	.00	.00	.03	.01										
6. Personal Appeals	.06	.06*	.05*	.04	.03									
7. Legitimizing	.02	.03	.02	.00	.00	.03								
8. Coalitions	.02	.00	.02	-.02	-.02	.00	.02							
9. Pressure	.00	.00	.02	.01	.02	.04	-.01	.01						
10. Commitment	.05*	.04*	.03	.03*	.01	.06*	.01	-.01	.01					
11. Compliance	.05	.03	.03	.03*	.00	.06*	.00	.01	.00	.03				
12. Reluctant Compliance	.05	.06	.05*	.02	.01	.10*	.00	.02	.03	.04*	.04*			
13. Resistance	-.03	.00	.00	.00	.00	-.01	-.01	.00	.02	.00	-.01	.01		
14. LMX	.08*	.06*	.06*	.04*	.02	.11*	.03*	.00	-.02	.07*	-.01	.09*	-.02	
15. Total Influence	.02	.06	.03	.01	.01	.06*	.02	-.02	-.01	.06*	.02	.06*	.00	.07*

* $p < .5$