

Exploring the nomological net of trust in leadership:
An empirical examination of antecedents, moderators, and outcomes

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Dedication

I dedicate this dissertation to Sascha.

Abstract

To fully understand human interactions in the workplace, we must understand the role trust plays. My dissertation is a general investigation of trust between subordinates and leaders within an organizational context. Using a diverse sample of US employees, I examined the relative importance of three key trust determinants: leader benevolence, competence, and integrity. I also examined the role trust plays in the trust nomological net. I examined previously posited, yet untested, moderators of the trustworthiness-trust relationship. Lastly, I tested the contextual effects of risk and formal controls on the relationship between employees' trust in leadership and their turnover intentions. I found an individual's propensity to trust seems to affect trust in leadership through perceptions of leader trustworthiness. Leaders can inspire trust by being capable, kind, and honest. Leader integrity is the most important direct determinant of trust in leadership. Despite theoretical arguments, relationship length and job complexity have no bearing on the importance of the direct determinants of trust in leadership. A manager may use trust to influence his/her staff, who are more willing to assume risk on their manager's behalf. Trust may act as a substitute for costly and rigid formal control mechanisms, like legal contracts. Despite theoretical arguments, situational risk in the form of organizational change, whether perceived or actual, does not magnify the importance of trust in leadership to turnover intentions. Still, trust in leadership is important to predicting turnover intentions, even beyond job satisfaction and organizational commitment.

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Trust is a principal construct in the study of human behavior. People are biologically hard-wired for trust (Kosfeld, Heinrichs, Zak, Fischbacher, & Fehr, 2005; Krueger, Parasuraman, Iyengar, Thomburg, Weel, et al., 2012; Van IJzendoorn & Bakermans-Kranenburg, 2012; Zak, 2008). Cooperation and indirect reciprocity, both behaviors commonly dependent upon trust, are evolutionarily adaptive strategies for coping with risks inherent in social interactions (Nowak & Sigmund, 2005; Rilling & Sanfey, 2011). Trust is a crucial component of everyday life, because it allows us to make assumptions, make decisions quickly, and generally operate in a world of uncertainty (McEvily, Perrone, & Zaheer, 2003; Zaheer, McEvily, & Perrone, 1998). Though different literatures tend to conceptualize trust differently (McKnight & Chervany, 1996), it has been studied in some form by academicians across many disciplines (Rousseau, Sitkin, Burt, & Camerer 1998), a testament to its ubiquity.

To fully understand human interactions in the workplace, we must understand the role trust plays. Therefore, interest in trust scholarship should be given in the organizational sciences. For that reason, my dissertation is a general investigation of trust between subordinates and leaders within an organizational context. Specifically, I sought to achieve three overall objectives. First, by using a diverse sample of US employees across industries, job types and levels, gender (both individual and direct manager), and ages, I was able to estimate several key relationships between trust correlates that are generalizable across a wide variety of individual and organizational demographic variables. Second, given a diverse sample and a sufficiently large sample size, I was able to examine previously posited, yet untested, moderators of the trustworthiness-trust relationship. Third, in response to a dearth of empirical research, using a multi-

organization sample I was able to test the contextual effects of risk and formal controls on the relationship between employees' trust in leadership and their turnover intentions.

A Consensual Definition of Trust

Before the 1990s, no consensual definition of trust existed, owing to its cross-disciplinary nature. In response, several trust researchers during that time strove to produce such a definition. Three cross-disciplinary exemplary works were summarized and integrated in this dissertation: Mayer, Davis, and Schoorman (1995); McKnight and Chervany (1996); Rousseau, Sitkin, Burt, and Camerer (1998). The first and third pieces are often cited in the literature, and were both used in the two trust meta-analyses (Dirks & Ferrin, 2002; Colquitt, Scott, & LePine, 2007). Mayer and colleagues' work is especially influential, having been cited over 1,000 times (Schoorman, Mayer, & Davis, 2007). The second piece is more a diamond in the rough: it is a rigorous and comprehensive, yet neglected treatment of the trust literature.

Citing a number of problems in the trust literature, such as lack of clarity and specificity, Mayer and colleagues (1995) developed an integrative model of trust between two people, and contrasted between trust and other similar constructs. The authors offered the following definition of trust: “[Trust is] the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party” (Mayer et al., p. 712). Dissecting this definition, five fundamental components emerged.

First, trust occurs between two parties: a trustor (i.e., one who trusts) and a trustee (i.e., one who is trusted). This rather obvious statement bears mentioning, because

it places trust squarely in the context of a relationship, which differentiates trust itself from the propensity to trust, an attribute. This statement is also general enough to allow for parties at many different levels of analysis (Schoorman, Mayer, & Davis, 2007).¹ Second, trust is an internal, psychological state. The “willingness” aspect of their definition differentiates trust from risk-taking behavior, and suggests trust is akin to a behavioral intention rather than a behavior itself (Fishbein & Azjen, 1975; 1980). The third fundamental component: trust is contextualized. The trustor expects the trustee to perform a “particular action.” This implies, while the trustee is expected to perform well in a specific way, it may not be expected to perform well in other ways. For example, I trust my hairstylist to cut my hair, but I don’t trust him to do my taxes. To summarize points one and three above: the question is not “Do you trust?” but “*Who* do you trust to do *what*?”

The fourth fundamental component of Mayer and colleagues (1995) definition is risk; to be “vulnerable” is to be at risk. This element of risk is a matter of course; the trustor is relying on the trustee to do something “important” to the trustor. The “important” aspect of their definition implies that if the trustee fails to behave as expected, then the trustor may experience negative consequences. Were the expected behavior unimportant to the trustor, then the threat of negative consequences would be lessened, there would be little risk, and trust would be superfluous.

¹ The smallest element in a relationship is a single person, and some argue trust must originate from a person, though a trustor may exist at the group level (Zaheer, McEvily, & Perrone, 1998). For this reason, McKnight and Chervany (1996) defined personal/interpersonal trust at this level, but acknowledged two or more of these elements may be aggregated to form a higher level of analysis, such as a dyad or group, which is in line with others’ conceptualizations (Mayer, et al., 1995; Schoorman, et al., 2007).

The fifth fundamental component is control; the trustor is unable to “monitor or control” the trustee’s behavior. Risk is a necessary, but not sufficient, condition of trust: risk must be *present*, but formal controls must also be *absent* for trust to play its role in social exchange. Social exchange is an elemental particle in the study of relationships, a fundamental social process based on an intuitive balancing of costs and benefits. Exchanges are entered into willingly; the purview of social exchange excludes coercion and formal controls. Trust is a mechanism, a way through which to interact with others in the absence of formal controls (Blau, 1964). Similar to if the expected behavior were unimportant, if the trustee’s behavior were influenced by formal controls, then the threat of negative consequences would be lessened, there would be little risk, and trust would be unnecessary.

In addition to defining what trust is, Mayer and colleagues (1995) also defined what trust is not. They differentiated it from other related concepts, including cooperation, confidence, predictability, propensity to trust, and trustworthiness. Cooperation, the authors explained, is a behavior, an outcome of trust, which is different from the psychological state of trust. Further, cooperation does not necessarily imply risk; cooperation is only a risk-taking behavior if cooperating puts the trustor at risk. Confidence, another concept related to trust, represents complete certainty, blind faith even. A confident person has no room for doubt, without doubt there is no risk, and without risk there is no need for trust. Another way to think about it: if perceived risk is low or non-existent, then trust simply becomes confidence. Predictability is another concept often related to trust, but it is not trust for two reasons. First, predictability is a

characteristic of the trustee, and therefore more akin to trustworthiness than trust. Second, a party may be predictably untrustworthy!

Mayer and colleagues (1995) also differentiated propensity to trust and trustworthiness from trust; while trust is a psychological state, propensity to trust and trustworthiness are characteristics of the trustor and trustee, respectively. Propensity to trust is the tendency to trust across parties, behaviors, and situations. It is often measured as the extent to which individuals trust general others or strangers (e.g., Rotter, 1967; 1980). Trustworthiness is a set of trustee characteristics, or more accurately the trustor's perceptions of these characteristics, that tend to inspire trust. The authors reviewed trustee characteristics studied in the literature, and identified three common factors that together represent a comprehensive assessment of trustworthiness: competence, benevolence, and integrity. Propensity to trust and trustworthiness are very important determinants of trust, but they are not trust itself.

Moving on from Mayer and colleagues (1995), in response to narrow and proliferative trust definitions, McKnight and Chervany (1996) undertook the herculean task of summarizing and integrating definitions used across academic disciplines and in common-language. The fruit of their labor was an integrative classification typology intended to help researchers accumulate seemingly disconnected trust research. They classified 113 trust definitions from sixty seminal academic articles and books across multiple disciplines (i.e., management, economics, political science, sociology, and psychology) that offered their own definition of trust, as well as multiple entries from several dictionaries. They concluded trust is a constellation of separate, but related, constructs that vary across three dimensions: impersonal/structural, dispositional, and

personal/interpersonal. Impersonal/structural definitions have more to do with characteristics of the situation or environment (e.g., norms regulating ethical behavior), whereas personal/interpersonal trust, as the name suggests, exists between one person and another party (e.g., person, group, thing) in a specific context. Dispositional definitions refer to a trustor's stable trait across situations or trustees.

Across these three dimensions, McKnight and Chervany (1996) identified six interrelated trust constructs representing the most prominent aspects of their classification typology: trusting intention, trusting beliefs, trusting behavior, system trust, dispositional trust, and situational decision to trust. They defined trusting intention as “the extent to which one party is willing to depend on the other party in a given situation with a feeling of relative security, even though negative consequences are possible” (p. 27). Of all their trust definitions, this is closest to the one proposed by Mayer and colleagues (1995), what I consider to be trust itself. The authors discussed five essential elements of this definition. First, and in agreement with Mayer et al., there must be the possibility of negative consequences; in other words, there must be some degree of risk. The second essential element is the willingness of one to depend on another, which encompasses two components of trust as defined by Mayer et al.: 1) the willingness to be vulnerable, and thus the volitional nature of trust, and 2) the relational nature of trust. Third, trust is characterized by feelings of security; as the level of trust increases, so do feelings of security, despite possible negative consequences. This is a nuance implied, but not explicitly stated, by Mayer et al. The fourth essential element of trusting intentions is situational specificity; again, I wouldn't trust my hairstylist to do my taxes. The last key element is control, or the lack of it. As the trustor's degree of control over the trustee's

behavior decreases, the importance and efficacy of trust in facilitating their social exchanges increases. These five elements are largely concurrent with the definition provided by Mayer et al.

That mostly leaves what I consider to be antecedents (i.e., trusting beliefs and dispositional trust), moderators (i.e., system trust), and outcomes (i.e., trusting behavior) of trust itself (i.e., trusting intentions). Trusting beliefs refers to the trustor's perceptions of the trustee's characteristics. Similar to Mayer and colleagues (1995), McKnight and Chervany (1996) identified four common trusting beliefs in the literature: benevolence, honesty, competence, and predictability (though Mayer et al. argued predictability alone is not trustworthiness, because a person could be predictably malevolent, dishonest, and/or incompetent). Trusting behavior is the behavioral manifestation of trusting intentions: the act of voluntarily depending on another despite the absence of controls and the possibility of negative consequences. In the parlance of Mayer et al., these are risk-taking behaviors. System trust refers to the trustor's belief² that controls are in place to protect its welfare, reducing risk and rendering trusting beliefs less relevant. Dispositional trust refers to both the trustor's belief in the trustworthiness of people, which McKnight and Chervany call belief-in-people, and its tendency to trust as a general rule, which they call trusting stance. Lastly, a situational decision to trust primarily refers to those situations with little risk, when typical trusting behaviors, such as cooperation or delegation, are not risk-taking behavior.

² Note system trust is a belief; the controls themselves are not system trust.

One noteworthy difference exists between the trust definitions offered by Mayer et al. (1995) and McKnight and Chervany (1996). Mayer and colleagues conceptualized confidence as what trust becomes when risk is not present. McKnight and Chervany, however, conceptualized confidence as the trustor's sureness of its trusting beliefs, which they argue aligns more with common usage of the word. However, evidence in my own data set indicates these two concepts are nearly empirically indistinguishable³. Therefore, for the purposes of this dissertation, I will treat trust and confidence as synonyms, rather than different concepts.

Another multi-disciplinary trust definition was offered by Rousseau, Sitkin, Burt, and Camerer (1998), who summarized articles written by experts from different disciplines published in a special topic forum on trust. Similar to their predecessors, they defined organizational trust as "a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another" (p. 395). Rousseau et al. noted confident expectations and intent to be vulnerable are fundamental elements of trust across disciplines; while operationalizations of trust may vary, these fundamentals are constant.

The authors also noted risk and interdependence are generally agreed upon necessary conditions of trust. More specifically, risk creates the opportunity for trust to emerge as an influential factor in interpersonal interactions. Further, the positive or negative outcomes of risk-taking behavior based on trusting intentions serve as feedback to the trustor that informs its perceptions of the trustee, and hence future trusting

³ These two items - "I have confidence in my company's senior leaders." and "I trust the leadership of this company." - were correlated .89, $p < .05$, $n=4,813$.

intentions with this particular trustee in that particular situation. Interdependence, another necessary condition of trust, occurs when outcomes of value and importance to one person cannot be achieved without the aid of another party, a fairly common situation in the workplace (e.g., team members with the same work goals). Quite simply, if interdependence does not exist between two parties, then trust between them is not necessary.

Similar to Mayer et al. (1995), Rousseau et al. (1998) also differentiated between what trust is and what it is not; trust is not a behavior or a choice, but rather the intention to engage in some behavior or make a choice. The authors also discussed the mutable nature of trust. Trust is not a static, dichotomous state; it varies depending on relationship context, such as perceived risk and degree of interdependence. Trust changes over time; it must be built or formed, it may remain stable, but then it may dissolve or decline, only to be rebuilt again.

Rousseau et al. (1998) also differentiated between three forms of trust: 1) deterrence-based, 2) calculus-based, and 3) relational trust. Deterrence-based trust, they argued, is trust based on the expectation the trustee will be punished for being untrustworthy, a definition more like controls and less like trust according to others' definitions (Mayer, et al., 1995). Calculus-based trust, on the other hand, is characterized by rational evaluations of the trustee's trustworthiness and a sort of risk-outcome, cost-benefit analysis. Calculus-based trust sits squarely within the paradigm of social exchange (Blau, 1964). Rousseau et al. referred to this as "trust but verify" and commented it is generally limited in scope (i.e., situation-specific). This second conceptualization of trust is closest to that adopted in my dissertation. Lastly, relational

trust is a history-based trust (Kramer, 1999); this form of trust is based on the personal history of outcomes of trust between the trustor and the trustee. This last type of trust tends to be invested in another party across situations.

Though trust may be operationalized differently, it is essentially the same at its core (Rousseau, et al., 1998). Integrating across all three definitions, for the purposes of my dissertation, trust is *the trustor's intention to assume risk by depending on the trustee*. Trust is a psychological state akin to a behavioral intention that is determined by attitudes, evaluations, and social norms, and that determines behavior. Evaluations are especially important to trust as a behavioral intention; a trustor must *evaluate* the trustee's trustworthiness, which is a direct determinant of its trust. The efficacy of trust in facilitating a social interaction is moderated by the degree of risk and control in that interaction. Trust can vary by degree, across situations, and across parties (at different levels).

Now that I have defined what trust is, I must place it with other related variables and explicate the role it plays. Therefore, in the next section, I will summarize and integrate several prominent models of trust in the organizational literature.

A Theoretical Model of Trust

In addition to providing an excellent, cross-disciplinary definition of trust, Mayer, Davis, and Schoorman (1995) also provided a parsimonious model of trust between two people. In their model, trust is determined by characteristics of the trustor (i.e., propensity to trust) and trustee (i.e., trustworthiness). Trust itself then determines risk-taking behavior within the relationship (i.e., trusting behaviors), which is moderated by the degree of risk in the situation, such that the greater the risk the stronger the

relationship. This process culminates in outcomes of the trustor's risk-taking, positive consequences if the trustee behaved in the expected way or negative if the trustee did not behave as expected. These outcomes provide feedback to the trustor and influence its perceptions of the trustee's trustworthiness. The role of controls is not explicitly, but is implicitly modeled; their definition of trust assumes the absence of controls. Propensity to trust is thought to directly affect trust, but also moderate the relationship between trustworthiness and trust, such that higher propensity to trust strengthens the relationship.

A different model of trust was offered by McKnight, Cummings, and Chervany (1998). Nomenclature aside, these authors differ from Mayer et al. (1995) in three important ways. First, they do not model risk as a moderator of the trust – risk-taking relationship. Second, propensity to trust affects trust directly *and* through perceptions of trustworthiness; propensity to trust is *not* considered a moderator of the trustworthiness-trust relationship. Thirdly, controls (which they call system trust) are explicitly modeled and posited to influence trusting behavior through trusting intentions.

Using the Rousseau, et al. (1998) definition of trust as a psychological state, and citing the Mayer, et al. (1995) trust model, Dirks and Ferrin (2001) compared two basic models of trust: a main effect model and a moderation model. The main effect model is familiar; over 90% of trust scholarship has used it. In the main effect model, either trust leads to better performance outcomes through trusting behaviors or trust generalizes to more positive work attitudes. The moderation model is less familiar.

Before describing the moderation model presented by Dirks and Ferrin (2001), first I would like to comment on their trust definition. While Dirks and Ferrin cite the definition of trust presented by Rousseau and colleagues, which I have incorporated into

my definition, in practice they seem to conceptualize trust differently than I have herein. In fact, in a study examining the moderating effect of trust on the relationship between motivation and group performance, Dirks (1999) defined trust as the “belief about the dependability of the partner and the extent to which the partner cares about the group's interests” (p. 446). This definition is more similar to that of trustworthiness than trust itself, both as defined herein. So, in my opinion, their model is really one of perceived trustworthiness. Therefore, where they refer to trust, I will refer to trustworthiness. The role of trust (i.e., the intention to assume some risk) is not explicated in the moderation model proposed by Dirks and Ferrin. Still, for the record, I have briefly explained the propositions put forth by these researchers about the moderating role of trustworthiness.

Basically, Dirks and Ferrin (2001) posited trustworthiness in an organizational context facilitates (moderates) other determinants of performance in two ways. First, they argued “[perceived trustworthiness] affects how one assesses the future behavior of another party” (p. 456). For example, the goal-performance relationship is moderated by perceived trustworthiness, such that those with lower perceptions of trustworthiness are less motivated by a goal to engage in goal-related performance behaviors, because anxiety about the trustee’s expected behavior will interfere with the effectiveness of the goal in motivating goal-related behavior. While they did not explicitly state the role of risk in this relationship, they implied perceptions of risk, and the anxiety they produce, increase as perceptions of trustworthiness decrease. Second, they argued “[perceived trustworthiness] also affects how one interprets the past (or present) actions of the other party” (p. 456). In other words, if perceptions of trustworthiness are high, then the trustor is more likely to interpret trustee behavior favorably, a sort of confirmation bias.

While their propositions are compelling, testing them is beyond the scope of my dissertation. I do not have data to empirically compare the main effect and moderation effect models of trustworthiness – I do not have data on goals, job performance, or the trustee's performance of expected behaviors (I am working with an existing dataset, and so am limited to variables that already exist in that dataset). Therefore, I was not able to evaluate the moderation model in my dissertation. In the theoretical model of trust presented herein, I adopted the main effect model wherein trust directly affects trusting behaviors.

The last model I will consider is an integrative model of trust in leadership offered by Burke, Sims, Lazzara, and Salas (2007). Using the trust definition proposed by Rousseau et al. (1998), Burke et al. devised an itemized model of trustworthy leader behaviors, such as setting a compelling direction (i.e., competence), providing coaching (i.e., benevolence), and accountability (i.e., integrity). Similar to Mayer et al. (1995), Burke et al. proposed propensity to trust as a moderator of the relationship between trust antecedents and trust in leadership. Burke et al. also proposed risk as a moderator, similar to Mayer et al., but unlike their predecessors, they proposed risk moderates the relationship between trust antecedents and trust in leadership, rather than between trust and risk-taking behavior.

While the fundamental building blocks vary a bit across these models, they're largely consistent; the relationships among these blocks, on the other hand, vary somewhat substantially. The fundamentals that emerged across models and that were adopted in this dissertation are presented in Figure 1, including characteristics of the situation (i.e., risk and controls), characteristics of the trustor (i.e., propensity to trust),

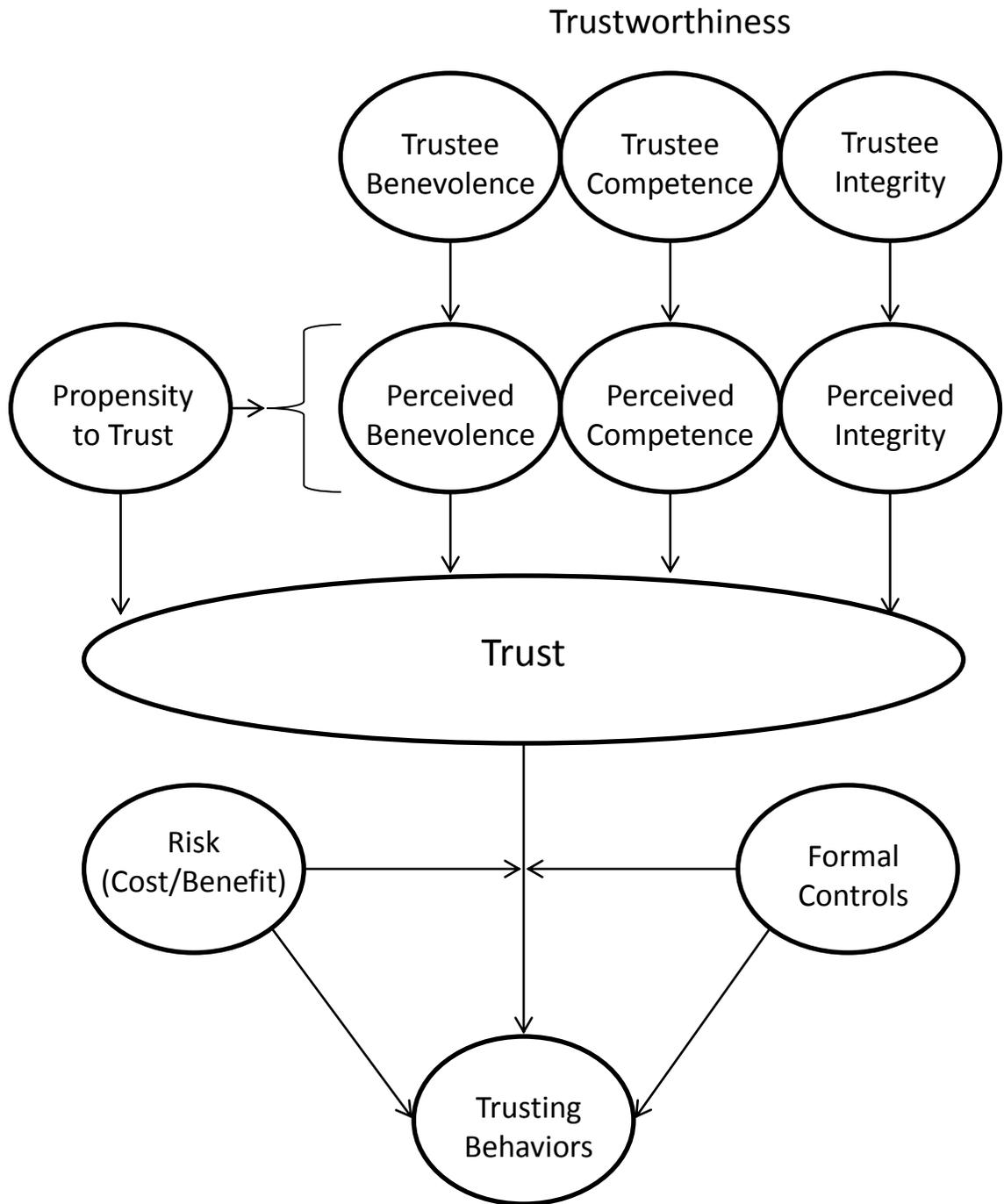


Figure 1. A general model of trust.

perceptions of the trustee (i.e., trustworthiness), trust itself, and trusting behaviors of the trustor⁴. I will discuss each of these in more detail soon, but first I will specify the theoretical structural relationships between them.

Trust as previously defined is at the center of the theoretical structural model; it is the central mechanism through which determinants of trust (e.g., trustworthiness, propensity to trust) act on trusting behaviors. Trust is, in part, directly determined by evaluations of the trustee's trustworthiness and the trustor's propensity to trust. This part of the structural model is consistent across models. The question is: does propensity to trust moderate any relationships in the model, and if so, which ones? Mayer et al. (1995) think propensity to trust moderates the relationship between trustworthiness and trust. However, they themselves defined propensity to trust "as a trait that leads to a generalized expectation about the trustworthiness of others" (p. 715). Given this definition, Mayer et al. actually seem more aligned with McKnight and Chervany (1996), who posited propensity to trust affects trust itself both directly and through perceptions of trustworthiness. In other words, propensity to trust manifests as a general tendency to perceive others as trustworthy, as well as a general tendency to trust others across situations. Colquitt and colleagues (2007) found support for this partial mediation model; propensity to trust has a direct effect on trust ($\beta=.12, p<.05$), but also an indirect effect on trust through perceptions of benevolence ($\beta=.20, p<.05$), competence ($\beta=.15, p<.05$), and integrity ($\beta=.29, p<.05$). I find no compelling theoretical reason, and Mayer et al. did not

⁴ While included in other trust models, expected behaviors of the trustee and positive or negative consequences for the trustor based on the trustee's behavior were excluded from my model, because I do not have data on these variables.

provide one, to expect propensity to trust to moderate the relationship between trustworthiness and trust. Therefore, I will compare two models, one wherein propensity to trust directly effects trust, and another wherein propensity to trust effects trust both directly and indirectly through trustworthiness.

That brings me to the roles played by risk and controls. I agree with Mayer et al. (1995) that risk moderates the relationship between trust and trusting behaviors. If risk doesn't exist in the situation, the trustor's willingness to take risk doesn't matter to its subsequent behavior. Additionally, I think it is important to model the effects of controls as McKnight and Chervany (1996) did, though I do not agree they influence risk-taking behavior through trusting intentions. Rather, the presence of controls makes trust less relevant by taking its place; therefore, the presence of controls should moderate the relationship between trust and risk-taking behavior. I will now discuss each piece of Figure 1 in more detail, with the exception of trust itself, which I have already discussed at length.

Risk and formal controls. Characteristics of the situation are crucial for understanding how trust works and the role it plays in social interactions. The situation must pose some level of risk to the trustor; risk is a necessary condition for trust to be relevant. Additionally, controls may be in place within the situation to assuage concerns about risk. Either way, the situation is important to the effectiveness of trust, especially the degree of risk and control in the situation.

Risk in this context is the threat of loss or other negative consequences resulting from some volitional behavior. As specified in my definition of trust, risk is a necessary

condition of trust. Risk plays an important role in trust; it acts as the threshold for risk-taking behavior. If the level of risk is higher than trust, then trusting behaviors will not be performed. On the other hand, if the level of trust is greater than the level of risk, then trusting behaviors will be performed.

In fact, there is a main effect of risk on trusting behaviors in experimental paradigms. The lower the risk, the more likely one is to engage in trusting behaviors; the higher the risk, the less likely (Evans & Krueger, 2011; Malhotra, 2004; Snijders & Keren, 1999). In situations without risk, trust does not exert influence on the decision to engage in behaviors (Mayer, et al, 1995). For example, it is expected, within teams, the more team members depend on their team leader to achieve outcomes important to the team members, and the greater the degree of task ambiguity in this situation, then the more important team member trust in the team leader is to team member turnover and other outcomes (Burke, Sims, Lazzara, & Salas, 2007).

Risk is a key moderator of the trust-trusting behaviors relationship not often examined in the empirical literature, and thus needs attention and study. In their meta-analysis, Dirks and Ferrin (2002) were left with unexplained variance across effect sizes, suggesting unidentified moderators. One possibility they acknowledged was greater risk, vulnerability, or uncertainty in the situation across studies. To address this lack of evidence, they suggested future research examine the relationship between trust and turnover intentions in the context of mergers and downsizings (a suggestion I have pursued in the present study).

Controls are things like “contracts, sanctioning capabilities, or legalistic procedures as formal substitutes for interpersonal trust” (Sitkin & Roth, 1993, p. 369). A

control is basically any type of structure designed to protect the trustor, to ensure the trustees' expected behaviors are performed. Trust can be thought of as a substitute for controls or coercion (Blau, 1964; McKnight & Chervany, 1996; Mollering, 2005). By definition, the use of controls should not lead to higher trust; it should lead to trust being less predictive of trusting behaviors. Use of controls reduces "the need to rely upon interpersonal bases of trust" (Sitkin & Roth, 1993, p. 373).

Some disagreement exists about controls and trust; psychologists' definitions of trust tend to imply expectations based on controls are not trust, whereas economists' definitions tend not to make this distinction and imply trust can be the result of controls (Bhattacharya, Devinney, & Pilluta, 1998; Hagen & Choe, 1998). The difference, I think, lies in how trust is operationalized. Research on controls tends to operationalize trust as cooperative behavior. As Mayer et al. (1995) pointed out, cooperation is not trust, nor is it necessarily risk-taking behavior. Therefore, while controls may result in cooperation, they may not necessarily result in trust. Controls may even undermine trust by not providing trustees the opportunities to be trustworthy of their own accord (Malhotra, 2009).

Characteristics and evaluations of the trustee. Characteristics of the trustee, and especially the trustor's perceptions of those characteristics, are the most important determinants of trust.⁵ The most obvious of these characteristics is simply the referent itself. Trust measures may differ by their referent, such as trust in others in general or

⁵ Not included in my model, though worth noting, in addition to trustor propensity to trust, there is also trustee propensity to be trustworthy, more widely known as personality-based integrity (Ones, Viswesvaran, & Schmidt, 1993).

specifically coworkers, direct leaders, or organizational leaders (Rousseau, et al., 1998). The empirical data are mixed; trust referent was found to be a moderator of multiple trust-outcome relationships in one meta-analysis (Dirks & Ferrin, 2002), but not in another (Colquitt, et al., 2007). Therefore, trust researchers have been encouraged to continue exploring the effects of trust in multiple referents (Colquitt, et al., 2007). For the purposes of the present study, I am most interested in leaders as referents.

I chose to examine direct managers and senior management separately. On one hand, both direct managers and senior management are leaders and may be considered the same type of referent. On the other hand, direct managers and senior management inhabit arguably very different organizational roles, and leadership level has been examined as an important variable by leadership researchers (e.g. Waldman & Yammarino, 1999). Given the importance of the referent in trust theory and given the differences between leaders at different organizational levels, I will examine whether leadership level matters to the hypotheses and research questions posited in my dissertation.

Besides the obvious, a constellation of trustee characteristics collectively called trustworthiness has been typically studied in the trust literature. These characteristics are direct determinants of trust; trust is hypothesized to be a function predominantly of trustworthiness (Mayer, et al, 1995), a hypothesis supported by the empirical literature (Colquitt, et al., 2007; Mayer & Davis, 1999). While the relative importance of trust determinants is thought to vary by situation, three core components, under one name or

another, have emerged from the literature: benevolence, competence, and integrity (Mayer, et al., 1995; McKnight & Chervany, 1996).

Perceived trustworthiness, rather than more objective assessments of trustworthiness, is the construct of interest in this dissertation. Mayer et al. highlighted the trustor's *perceptions* of the trustee's trustworthiness are what really that matter to trust. Similarly, McKnight and Chervany emphasized *perceptions* in their definition of trust beliefs. Calculus-based trust is based on the trustor's perceptions of the trustee's intentions to perform the expected behavior, or in other words *perceptions* of the trustee's trustworthiness (Rousseau et al., 1998). While others have argued the difference between trustworthiness and trust is the difference between objective and subjective characteristics of the trustee (McEvily, Perrone, & Zaheer, 2003), I agree it is the perceptions of trustworthiness that are key, because they form the evaluations and expectancies upon which the behavioral intention (i.e., trust itself) is based.

The first component of trustworthiness, benevolence, has been defined as “the extent to which a trustee is believed to want to do good to the trustor” (Mayer, et al, 1995, p.718) and as the extent to which a trustee “cares about the welfare of the other person and is therefore motivated to act in the other person's interest” (McKnight & Chervany, 1996, p. 33). A benevolent trustee does not seek to maximize its benefits at the trustor's expense. This concept is similar to affect-based trust, described by McAllister (1995) as an emotional bond between trustor and trustee characterized by genuine care and concern. Benevolence is expected to increase over the length of a trusting relationship (Mayer, et al, 1995), and lead to more relational forms of trust (Rousseau, et

al. 1998). The relationship between benevolence and trust has been firmly established ($\rho=.63$; Colquitt, et al., 2007).

The second component of trustworthiness has been alternately dubbed competence and ability⁶, and has been defined as “that group of skills, competencies, and characteristics that enable a party to have influence within some specific domain” (Mayer, et al, 1995, p. 717), and as “the ability to do for the other person what the other person needs to have done” (McKnight & Chervany, 1996, p. 34). In fact, trustee competence is correlated .67 with trust (corrected for attenuation, Colquitt, et al., 2007). Note, it is largely this trustee characteristic that predicates the person- and situation-specific nature of trust; a trustee has specific competencies and/or abilities to do certain things (Schoorman, Mayer, & Davis, 2007).

The third core component of trustworthiness, integrity, has been defined as the extent to which “the trustee adheres to a set of principles that the trustor finds acceptable” (Mayer, et al, 1995, p. 719). This includes phenomena like consistency, honesty, and word-deed congruence. Similarly, McKnight and Chervany (1996) discussed integrity in terms of honesty, which includes telling the truth and fulfilling promises, and predictability or consistency. Integrity is correlated with trust .62 (corrected for attenuation, Colquitt, et al, 2007).

As mentioned before, consistency is a necessary, but not sufficient, condition of integrity (Mayer, et al, 1995); the trustee must behave consistently in a mutually agreed

⁶ This category is primarily characterized by knowledge and skills necessary to perform the expected behaviors (e.g., job performance). Therefore, I prefer and will use the label “competence,” because it connotes knowledge and skills, whereas “ability” connotes potential for knowledge and skill acquisition.

upon good or right way. While many trust researchers seem to imply a moral relativism, others argue certain behaviors tend more often to be objectively good or right (Becker, 1998); I am in the latter camp. Honesty is one such good and right behavior. In support of this argument, multiple different ethical standards for dealing with stakeholders were reviewed and converged on the importance of honesty and transparency (Schwartz, Dunfee, & Kline, 2005).

Characteristics of the trustor. In addition to characteristics of the situation and evaluations of the trustee, characteristics of the trustor play an important role in determining. The most commonly discussed among these is propensity to trust, which has been conceptualized in two ways: a general tendency to trust strangers across situations (Rotter, 1967; 1980), and a general belief in the goodness of human nature (Rosenberg, 1957). The existence of trait trust may have biological underpinnings. Researchers have found intranasal administration of the hormone oxytocin is related to increases in trusting behaviors (Van IJzendoorn & Bakermans-Kranenburg, 2012), but not risk-taking behaviors (Kosfeld, et al., 2005; Zak, 2008). Also, variation on the oxytocin receptor gene is associated with more or less trusting behaviors, but not risk-taking behaviors (Krueger, Parasuraman, Iyengar, Thomburg, Weel, et al., 2012). Trustors who are high in propensity to trust are thought to generally trust others more than those who are low in it, especially before personal history and otherwise individuating information has been gathered about the trustee (Mayer, et al, 1995). Empirical evidence supports a modest relationship between propensity to trust and trust itself ($\rho=.27$; Colquitt, et al., 2007).

Trusting behaviors. The final component in Figure 1 needing discussion is trusting behaviors. As Mayer, et al (1995) explained, no risk is actually taken in trusting; the trustor is exposed to risk only once it engages in trusting behaviors based on its trusting intentions. The nature of the trusting behaviors depends on the situation the trustor and trustee find themselves in (e.g., cooperating, sharing information, altruistic behaviors). All trusting behaviors are risk-taking behaviors, but not all risk-taking behaviors are trusting behaviors. For example, when a gambler rolls the dice at a craps table, she is taking a risk; however, the shooter doesn't *trust* the dice (or the dealer or the casino). What differentiates trusting behaviors from risk-taking behaviors in general is this: trusting behaviors are risk-taking behaviors that occur within the context of a social interaction characterized by the trustor's *expectation* the trustee will behave in some valued way. The shooter isn't rolling the dice based on the expectation they will come up 7 or 11, though she certainly hopes they will.

As presented in Figure 1, trusting behavior is a function of the trustor's propensity to trust, the trustor's evaluation of the trustee's trustworthiness, the degree of risk in the situation, and the extent to which controls are in place to discourage untrustworthy behaviors. The relationship between trust itself and trusting behavior is moderated by the degree of risk and presence of controls in the situation, such that when risk is high and controls are low, trust itself is more strongly related to trusting behaviors. Unfortunately, these moderating relationships are rarely tested (Dirks & Ferrin, 2002). Trust is correlated .42 with risk-taking behaviors, such as delegating an important task,

sharing information, or deciding not to monitor someone (corrected for attenuation; Colquitt et al, 2007).

Outcomes of trusting behaviors may be positive or negative: positive if the trustee behaves as expected and negative if it does not (i.e., violations of trust; Rousseau & Tijoriwala, 1998; Zhao, Wayne, Glibkowski, & Bravo, 2007). When the trustee does not behave as expected, the negativity of the consequences for the trustor depends on how important the trustee's expected behavior is to the trustor. The role of these outcomes is similar to that of feedback in control theory (Carver & Scheier, 1981; Klein, 1991). Positive (or negative) consequences of trusting behavior provide the trustor with personal knowledge of the trustee's trustworthiness (or lack thereof), which will be taken into consideration in future social interactions with this trustee. This is Kramer's (1999) history-based trust; as he succinctly explained it, "trust between two or more interdependent actors thickens or thins as a function of their cumulative interaction" (p. 575).

The Present Study

By defining and modeling trust in general, I have laid the foundation for the present study. Mine is a science-practice dissertation: I utilized rich archival data from an established industry survey to examine a variety of questions about trust that have surfaced in the academic literature. Some of these questions are more basic and have been previously addressed by meta-analyses, while others are new empirical tests; yet, the uniqueness of the dataset makes answers to even the more basic questions interesting and new. As previously mentioned, the data are a diverse cross-section of workers, in terms of organization, industry, job type, and other demographic variables. Most studies

published in I/O psychology employ occupationally homogeneous samples (Shen, Kiger, Davies, Rasch, Simon, & Ones, 2011). A cursory review of the primary studies Colquitt and colleagues (2007) included in their meta-analysis confirms this; most trust-related studies employed samples from one or two organizations, industries, or job types. None of the studies I looked at employed as diverse a sample as the current data; my dissertation may be the first general investigation of organizational trust in such a large, diverse sample of workers.

As I utilized existing data, I clearly did not design a priori the data collection method to test specific hypotheses. Rather, I applied a posteriori the consensual definition and theoretical model of trust discussed herein to derive specific hypotheses that are empirically testable with these data. As I was formulating my hypotheses, I asked myself, “Given what I know about trust: 1) What trust-related variables are measured within this dataset? and 2) What interesting and relevant questions can I answer with these variables?” My overarching impetus was to examine trust in leadership and its correlates in a diverse sample of employees under different organizational conditions. Though trust is thought to be situation-specific, I used the theoretical model developed herein to inform hypotheses about trust in leadership in general and turnover intentions.

Trust in leadership. Trust and leadership go hand-in-hand. Consider that power and influence are essential aspects of effective leadership (Yukl, 1989). Now remember that trust is a substitute for controls or coercion (Blau, 1964; McKnight & Chervany, 1996; Mollering, 2005). Therefore, effective leaders may use trust to exert influence, rather than or in addition to depending on controls or coercion (McEvily, Perrone, & Zaheer, 2003). In other words, trust is a valuable resource for leaders, and in some

instances is a preferable alternative to controls, which may have negative consequences (Mollering, 2005). Given the importance and usefulness of trust to leadership, in my dissertation I chose to examine on the antecedents, moderators, and outcomes of trust in leadership.

Antecedents of trust in leadership. The first set of hypotheses I developed are about the antecedents of trust in leadership. Specifically, I posited relationships between two antecedents, propensity to trust and evaluations of the trustworthiness, and trust in leadership. Further, I offered hypotheses about three moderators of the trustworthiness-trust relationship: trust referent, relationship length, and job complexity.

Propensity to trust. As previously discussed, characteristics of the subordinate should be a determinant of trust in leadership, especially propensity to trust (Rotter, 1967; 1980). In fact, propensity to trust is moderately related to trust across referents (Colquitt, et al., 2007). Therefore, I offer:

Hypothesis 1: Subordinates' propensity to trust is moderately, positively related to subordinates' (H1a) trust in their direct manager and (H1b) trust in the senior management of their organization.

In addition, propensity to trust may indirectly affect trust through perceptions of trustworthiness. Therefore, I offer the following research questions:

Research Question 1a (RQ1a): Is subordinates' propensity to trust directly related to trust in their direct manager or indirectly related through perceptions of trustworthiness?

Research Question 1b (RQ1b): Is subordinates' propensity to trust directly related to trust in senior management or indirectly related through perceptions of trustworthiness?

Evaluations of trustworthiness. Leader trustworthiness is especially important to trust in leadership and leader effectiveness. Effective leaders are trustworthy, and thus inspire trust in their subordinates (Burke, et al., 2007). Behaviors proscribed by effective leadership theory overlap substantially with behaviors that characterize trustworthiness. Leader benevolence is an aspect of transformational leadership. Individualized consideration is the extent to which a leader "listens to the follower's concerns and needs" (Judge & Piccolo, 2004, p. 755), behaviors aligned with the definition of leader benevolence presented herein. Trust in the leader is expected to follow; indeed, researchers have found a strong correlation between transformational leadership and trust in leadership ($\rho=.79$; Dirks & Ferrin, 2002).

Leader competence, another characteristic of leader trustworthiness, is also a shared determinant between trust in leadership and leader effectiveness. General cognitive ability is correlated .18 with perceived individual effectiveness and .33 with objective measures of effectiveness (both meta-analytic correlations have been corrected for predictor unreliability, criterion unreliability, and range restriction; Judge, Colbert, & Ilies, 2004). Smarter leaders not only perform better, but are more trustworthy, and hence more likely to be trusted.

Truth-telling and promise-keeping, central elements of integrity, are essential to transactional leadership, as "[f]ollowers are motivated by the leaders' promises" (Bass &

Stiedlmeier, 1999, p. 184). To wit, honesty has been found across studies to be related leadership success (Reave, 2005). Also, transactional leadership and trust in leadership are strongly correlated ($\rho=.67$; Dirks & Ferrin, 2002). In sum, effective leaders are more trustworthy, and hence more trusted.

Given trust, trustworthiness, and leadership are so closely entwined, research about trust in leadership has been naturally of great interest to organizational scientists. Harking back to the role of risk in the theoretical model of trust presented herein, it seems trust would be most important to the one who is assuming the most risk in a particular relationship. Therefore, it is appropriate to focus on a subordinate's trust in leaders, rather than vice versa, though the converse is also certainly worthy of study. Accordingly, in my dissertation, I tested a number of applied propositions about subordinates' trust in their direct manager (presented in Figure 2a) and the senior management of their organization (presented in Figure 2b). These hypotheses were derived from the theoretical model of trust presented in Figure 1 using the variables measured in my dataset.

The first among these propositions addresses some of the more basic relationships presented in Figures 2a and 2b. That benevolence, competence, and integrity are strongly related to trust is substantiated by meta-analytic evidence ($\rho=.63$, $.67$, and $.62$, respectively; Colquitt, et al., 2007). If these effect sizes are robust across organizations, industries, jobs, then I should observe similar magnitudes. Therefore, I propose:

Hypothesis 2a (H2a): Direct manager (i) benevolence, (ii) competence, and (iii) integrity are strongly, positively related to subordinates' trust in their direct manager.

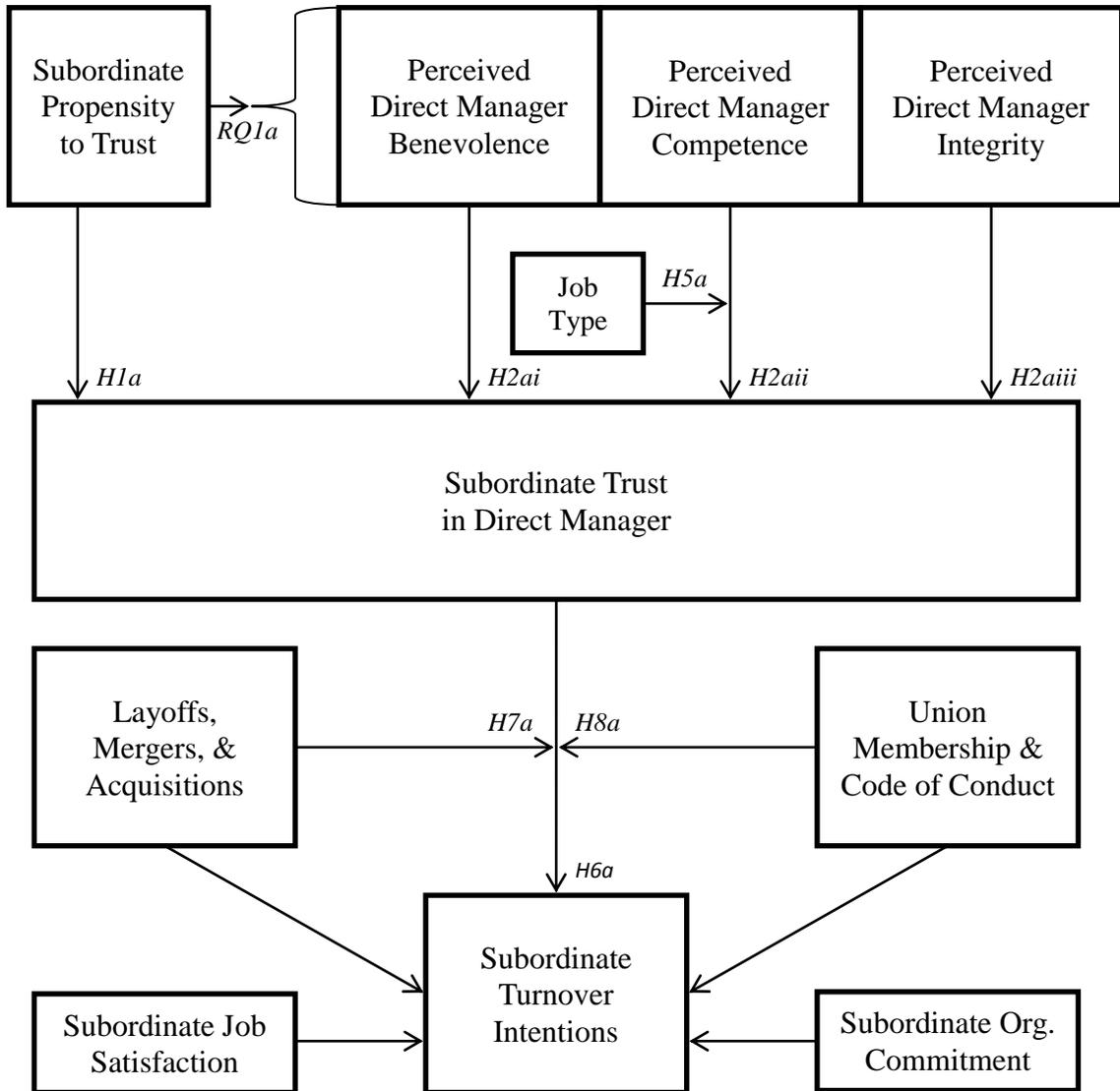


Figure 2a. A working model of subordinate trust in direct manager with hypotheses. Job satisfaction and organizational commitment were added to this model as control variables; therefore, no specific hypotheses involving them were offered. Hypotheses 3 and 4, and Research Questions 2a through 2c are not represented in this figure.

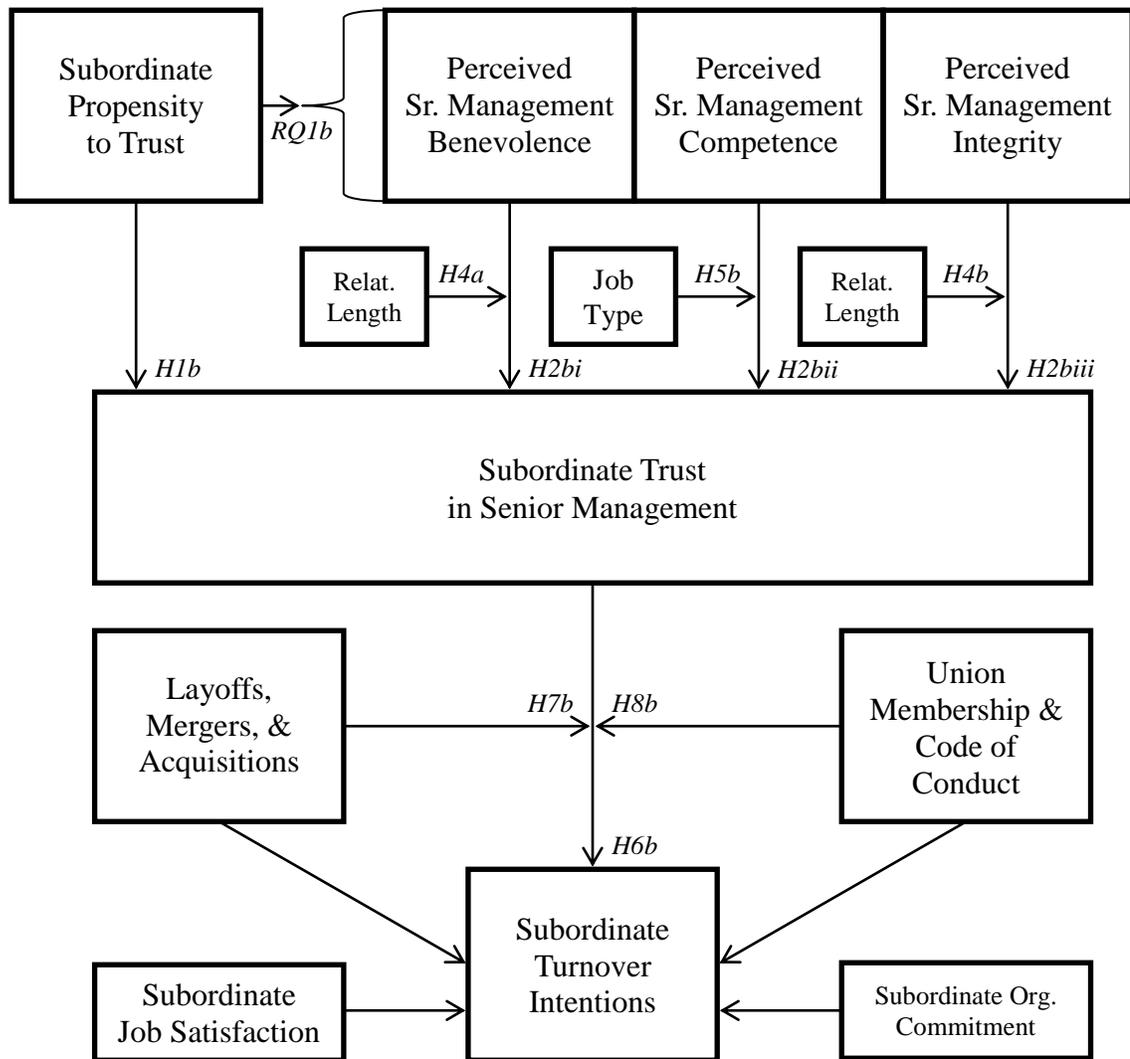


Figure 2b. A working model of subordinate trust in senior management with hypotheses. Job satisfaction and organizational commitment were added to this model as control variables; therefore, no specific hypotheses involving them were offered. Hypothesis 3 and Research Questions 2a through 2c are not represented in this figure.

Hypothesis 2b (H2b): Senior management (i) benevolence, (ii) competence, and (iii) integrity are strongly, positively related to subordinates' trust in their senior management.

Not satisfactorily addressed by previous research, the relative importance⁷ of each individual component of trustworthiness has been questioned. Colquitt and colleagues (2007) attempted to model the relative importance of benevolence, competence, and integrity to trust using meta-analytic structural equations modeling. However, the authors suspected regression weights were biased due to multicollinearity among benevolence, competence, and integrity. An unbiased test of relative importance can be achieved using Relative Weights Analysis (RWA; Johnson, 2000). Therefore, I will use RWA to answer the following questions:

Research Question 2a (RQ2a): What is the relative importance of direct manager (i) benevolence, (ii) competence, and (iii) integrity to subordinates' trust in their direct manager?

Research Question 2b (RQ2b): What is the relative importance of senior management (i) benevolence, (ii) competence, and (iii) integrity to subordinates' trust in senior management?

Moderators of the trustworthiness-trust in leadership relationship. One of the major advantages of the current data is their diversity, yielding the opportunity to explore moderators previous meta-analyses have been unable to examine. In their meta-analysis

⁷ Relative importance here is defined as “the proportionate contribution each predictor makes to R^2 , considering both the unique contribution of each predictor by itself and its incremental contribution when combined with the other predictors” (Johnson & LeBreton, 2004, p. 238).

of the correlations between benevolence, competence, and integrity, and trust itself, Colquitt and colleagues (2007) observed the percents of variance explained by study artifacts were relatively small (11.9, 9.7, and 3.9%, respectively), suggesting the existence of moderators. At least three moderators of these relationships have been proposed in the literature, and will be examined here: trust referent, relationship length, and job type.

Trust referent. As previously mentioned, trust measures often differ by their referent (Rousseau, et al., 1998), and trust referent has been examined as a moderator in the literature (Colquitt, et al., 2007; Dirks & Ferrin, 2002). Colquitt and colleagues found benevolence was more strongly related to trust for a leader-based ($\rho=.63$) than coworker-based ($\rho=.51$) referent, competence was about equally related to trust for leader-based ($\rho=.62$) and coworker-based ($\rho=.68$) referent, and integrity was much more strongly related to trust for a leader-based ($\rho=.67$) than coworker-based referent ($\rho=.13$). Dirks and Ferrin also examined trust referent as a moderator, though they did not examine its moderating effect on the relationships between trustworthiness and trust itself. However, they did find trust referent moderates several trust-outcome relationships, further indicating trust referent is an important moderator in trust research. Therefore, I will examine the following research question:

Research Question 3 (RQ3): Is the relative importance of (a) benevolence, (b) integrity, (c) competence to trust in direct manager similar to their relative importance to trust in senior management?

Relatedly, in a post hoc analysis, Dirks and Ferrin found trust in direct leaders and trust in organizational leadership are moderately, positively correlated ($r = .38$). Trust in direct manager and senior management may be related for at least three reasons. First, shared variance may represent the employees' propensity to trust. Therefore, I will estimate the relationship between trust in direct manager and senior management while controlling for propensity to trust. Second, employees' trust in their direct manager may generalize up to senior management and/or their trust in senior management may generalize down to their direct manager. Third, senior management and direct managers may receive similar management training or engage in similar leadership behaviors due to belonging to the same organization. Therefore, I propose the following:

Hypothesis 3 (H3): Controlling for subordinate's propensity to trust, a moderate, positive correlation exists between subordinates' trust in their direct manager and trust in senior management.

Relationship length. While relationship length has been found to be unrelated to trust (Dirks & Ferrin, 2002)⁸, it has been proposed as a moderator of the trustworthiness-trust relationship. Mayer and colleagues (1995) proposed integrity information, which can often be obtained from other sources like trustor reputation (Kramer, 1999), would be most salient to trust early in a trusting relationship, because interactions between trustor and trustee have likely been few and information gathered via personal experience is likely low. On the other end of the spectrum, Mayer and colleagues proposed

⁸ Interestingly, in my data trust in senior management and organizational tenure, my proxy for relationship length, are negatively related ($r = -.12$, $p = .00$, $n = 4,962$), such that trust is highest at less than one year at the organization ($M = 3.74$) and lowest at more than 15 years ($M = 3.18$).

benevolence would be most salient later in a trusting relationship, because interactions have been plentiful and benevolence information has been gathered. Rousseau and colleagues (1998) proposed something similar with calculative and relational trust; calculative trust, which is based on exchange, is more salient early in a relationship, whereas relational trust, which is based on emotional attachment, is more salient later in a relationship. Also similar, McAllister (1995) argued affect-based trust (i.e., trust based on trustor benevolence) is more resistant to trust violations; therefore, cognition-based trust (i.e., trust based on trustor integrity and competence) may no longer be needed later in the relationship when affect-based trust has been established. Therefore, I propose the following:

Hypothesis 4: Senior management (H4a) integrity will be relatively more important to subordinates' trust in senior management earlier in the subordinates' organizational tenure, and senior management (H4b) benevolence will be relatively more important to subordinates' trust in senior management later in the subordinates' organizational tenure.

Job complexity. Another moderator discussed in the literature is job complexity. Citing job complexity moderates the relationship of general cognitive ability with job performance and training performance (Hunter & Schmidt, 2004), some have argued job type should be examined as a moderator of the competence-trust relationship. Specifically, competence should be relatively more important in jobs that are more complex (Colquitt, Scott, & LePine, 2007). Therefore, I propose the following:

Hypothesis 5: In more complex job types, competence will be relatively more important to subordinates' trust in their (H5a) direct manager and (H5b) senior management.

Outcomes of trust in leadership. The general model of organizational trust presented herein may be usefully applied to the topic of turnover. Dirks and Ferrin (2002) argued trust in direct managers and trust in senior management are both relevant to turnover intentions, and in fact found similar relationships between trust in both referents and these intentions ($r=-.38$ and $-.41$, respectively). Turnover intentions are the best single predictor of actual turnover, which can be costly to organizations (Hom & Griffeth, 1995; Griffeth, Hom, & Gaertner, 2000). If organizational leaders want to prevent voluntary turnover, then they need to understand what drives turnover intentions. Hence, the study of turnover intentions and their antecedents is warranted.

Trust in leadership may be directly related to turnover intentions in at least two ways (Dirks & Ferrin, 2001). First, trust may lead to trusting behaviors, like choosing to remain at the current organization despite risks within the organization, such as threats to job security or pay raise freezes. Second, trust in leadership may generalize to other work attitudes, like job satisfaction and organizational commitment. Given the theoretical and empirical relationship between trust and turnover intentions, I propose the following:

Hypothesis 6: Controlling for job satisfaction and organizational commitment, subordinates' trust in both their direct manager (H6a) and senior management (H6b) will be negatively related to subordinates' turnover intentions.

Moderators of the trust-turnover intentions relationship. Dirks and Ferrin (2002) lamented the lack of research on contextual factors that impact the relationship between trust in leadership and various outcomes, despite meta-analytic evidence suggesting such moderators exist. Two contextual factors specified in the theoretical trust model presented in Figure 1 are: 1) degree of risk present in the situation and 2) the existence of controls. For my dissertation, I operationalized degree of risk as the occurrence and perceived threat of organizational change (e.g., lay-offs, outsourcing). I operationalized controls as union membership and/or whether the organization had published a code of conduct.

Trust may be crucial during times of organizational change, especially for survivors. Lay-offs have a particularly troubling effect on survivors' subsequent voluntary turnover (Spreitzer & Mishra, 2002). Trust is argued to play a key role in mitigating these negative effects, especially regarding situational risk (Mishra & Spreitzer, 1998). Further, in instances of merger and acquisition, lack of transparency leads to organization-wide distrust on both sides (i.e., in the acquiring company and the acquired company; Saunders, Altinay, & Riordan, 2009). Therefore, I posit:

Hypothesis 7a (H7a): The degree of risk in the situation will moderate the relationship between subordinate's trust in their direct manager and subordinates' turnover intentions, such that the relationship between trust and turnover intentions will be stronger/weaker when risk is greater/less.

Hypothesis 7b (H7b): The degree of risk in the situation will moderate the relationship between subordinates' trust in senior management and

subordinates' turnover intentions, such that the relationship between trust and turnover intentions will be stronger/weaker when risk is greater/less.

Labor unions act as situational controls for their members, especially under the threat of lay-offs; they may prevent layoffs from occurring in the first place (e.g., labor contracts), or offer support to layoff victims (e.g., job training, legal counseling). Therefore, whether an employee is a union member should alleviate some of the risk present during times of organizational change. Another control is the presence of a code of conduct, which falls under what Sitkin and Roth would call bureaucratic controls, specifically "increased use of formal, standard policies and procedures" (1993; p. 374). About half of companies internationally have a code of conduct, and about half of those include some stipulation about transparency and honesty (Kaptein, 2004). Therefore, whether an organization has published a code of conduct should offer employees some reassurance about their leaders' honesty and integrity during times of organizational change. Therefore, I posit:

Hypothesis 8a (H8a): The presence of control mechanisms will moderate the relationship between subordinates' trust in their direct manager and subordinates' turnover intentions, such that the relationship between trust and turnover intentions will be weaker/stronger when controls are more/less present.

Hypothesis 8b (H8b): The presence of control mechanisms will moderate the relationship between subordinate's trust in senior management and subordinates' turnover intentions, such that the relationship between trust

and turnover intentions will be weaker/stronger when controls are more/less present.

Methods

In this section, I have described the survey protocol, sample characteristics, measures, and analyses performed. Due to the opportunistic nature of my dissertation, its observational study design was dictated by the data.

Survey and Sample

The particular survey that yielded the data used in my dissertation was administered online during the third quarter of 2010 by an external market research vendor. Respondents were recruited from the vendor's online volunteer panel of over 500,000 individuals in the U.S. Respondents had registered with the vendor using their email address and the vendor had sent them periodic emails advertising current surveys. The vendor rewarded respondents with points for survey completion, which they can use to enter sweepstakes, purchase gift cards, or trade for cash. The vendor promised its panel members anonymity and did not release unique identifiers to its clients. The client, which owns these data, is a human resources support firm with an office in Minneapolis, MN.

This particular survey had two hard quotas: total sample size had to reach 5,000 and gender had to be balanced (50% male). The vendor allowed each respondent (identified by his/her email) to complete the survey only once. Out of the total panel, the response rate is 1%; but, out of those who showed interest in the survey by touching the link (N=6,944), the response rate is 72%. Respondents were screened for age and organization size. If respondents indicated they were less than 18 years old, or if

respondents indicated less than 100 people work full-time for their organization, then they were informed they did not qualify for this survey and the survey was terminated. The total sample consists of N=5,000 employees in the US, and is diverse in terms of employee gender (50% male), age (M=47, SD=12), job type (Table 1), industry (Table 2), organization size (Table 3), and direct manager gender (57% male). Due to the sampling strategy, employees are generally not part of the same organization and do not share the same manager, limiting dependency within the data.

Table 1
Job Types Represented in the Sample

Job Type	N	%
Executive/Senior Manager	134	3%
Manager	451	9%
Supervisor	361	7%
Clerical – (e.g. secretary, office machine operator, typist, bookkeeper, bank teller, computer operator, keypuncher, data entry)	751	15%
Crafts/Skilled Trades – (e.g., mechanics, machinists, carpenters, repairer)	166	3%
Laborers – (e.g., production worker, assembly, packing, warehouse helper, material moving, construction laborer, farm laborer)	275	6%
Operative – (e.g., equipment operators, drivers, deliverers)	156	3%
Other – (e.g., military, farmer, forester)	244	5%
Professional – (e.g., teacher, accountant, physician, nurse, dentist, attorney, engineer, arts, researcher, scientist)	1041	21%
Sales – (e.g., retail salesperson, cashier, sales representative, insurance, real estate)	534	11%
Service – (e.g., food service, cleaning service, health, protective service, barber/beautician, firefighter, police)	435	9%
Technical – (e.g., medical technician, computer programmer, engineering technician)	452	9%

Table 2
Industries Represented in the Sample

Industry	N	%
Accounting/Legal	49	1%
Agriculture/Farming, and Forestry	17	0%
Banking Services – (includes Credit Unions and other depository institutions)	122	2%
Business Services – (includes advertising, research, consulting, information services, etc.)	142	3%
Communication Services/Utilities	121	2%
Construction/Engineering	104	2%
Education	621	12%
Electronics and Computer Manufacturing	123	2%
Food Industry Retail/Wholesale – (includes grocery stores, food distribution, etc.)	188	4%
Government	531	11%
Health Care Products/Pharmaceuticals	83	2%
Health Care Services	530	11%
Heavy Manufacturing – (includes automobiles, machinery, large appliances, refining, metals, chemicals, paper, etc.)	205	4%
Hotel/Lodging Services	60	1%
Light Manufacturing – except electronics and computers (includes food products, clothing, furniture, printing, etc.)	177	4%
Mining, including metal, coal, and oil extraction	21	0%
Other	925	19%
Other Financial/Insurance/Real Estate	189	4%
Other Personal Services – (includes auto repair, recreation, dry cleaning, beauticians, etc.)	52	1%
Public Administration	27	1%
Restaurant (sit-down or take-out) and eating/drinking establishments (including bars and cafés)	108	2%
Retail/Wholesale Trade – except food	454	9%
Transportation Services	151	3%

Table 3
Organization Size in the Sample

Organization Size	N	%
100 – 249	913	18
250 – 499	600	12
500 – 999	547	11
1,000 – 4,999	974	20
5,000 – 9,999	546	11
10,000 or more	1420	28

Measures

How trust is conceptualized is one thing; how it is measured is another. As many types of trust measures exist as different definitions of trust; some measure determinants of trust like propensity to trust (e.g., Rotter, 1967; 1980) and trustworthiness (e.g., Butler, 1991; Mayer & Davis, 1999), trust itself (e.g., Schoorman, Mayer, & Davis, 2007), trusting behaviors (e.g., Kosfeld, et al., 2005; Zak, 2008), and some measure a little of everything (e.g., Cummings & Bromiley, 1996). However, most purported trust measures have actually measured determinants of trust, such as trustworthiness or propensity to trust, rather than trust itself (Butler, 1991).

For my dissertation, I used archival data collected with items on an industry survey that measure trust itself and trustworthiness. Given I am taking advantage of a data opportunity and using whatever items are available to me, I must establish the survey items are indeed content valid measures of trust itself and trustworthiness. Regarding the measurement of trust itself, a single Likert-type survey item was used: “I trust my manager (the leadership of this company).” In their meta-analysis of the trust literature, Colquitt and colleagues (2007) identified three types of measures of trust itself

and then examined measure type as a moderator. The three measure types are 1) trust as a positive expectation, 2) trust as a willingness to be vulnerable, and 3) direct measures of trust (i.e., I trust so-and-so.). Clearly, my measure of trust itself falls into the third category. However, measurement implications of this are negligible; Colquitt and colleagues found measure type did not matter much across multiple antecedent-trust and trust-consequence relationships.

Regarding the measurement of trustworthiness, Appendix B presents the trustworthiness items from the survey used in my dissertation, trustworthiness items from a validated measure (Mayer & Davis, 1999), and coding instructions from two meta-analyses (Colquitt, et al, 2007; Dirks & Ferrin, 2002). Upon examination of item content and coding instructions across sources, I found my trustworthiness items represent each major component of trustworthiness as they have been measured in the literature.

Propensity to trust was measured using six items borrowed from the literature (Rotter, 1967; 1980). They included “When dealing with strangers, it's better to be cautious until they have provided evidence they are trustworthy.”, “Most elected officials are really sincere in their campaign promises.”, “Many major national sports contests are fixed in one way or another.”, “Most people can be counted on to do what they say they will do.”, “In these competitive times, you have to be alert or someone is likely to take advantage of you.”, and “Most sales people are honest in describing their products.” All items were rated on a 5-point Likert scale (1=Strongly Disagree; 2=Disagree; 3=Neither Agree nor Disagree; 4=Agree; 5=Strongly Agree; and “I Don’t Know,” which was coded as missing). The odd items in the list above were reverse scored. The propensity to trust scale exhibited poor internal consistency reliability ($\alpha=.33$). Reliability improved

markedly when the three positively worded items were evaluated alone ($\alpha=.73$).

Therefore, I computed the scale score by taking the average of only the three positively worded items.

Evaluations of trustworthiness were assessed for the subordinate's direct manager and senior management. Items were identical across referent. Each of the three components of trustworthiness - benevolence, competence, and integrity - was assessed using two items. Benevolence was measured with "My manager (Senior management) demonstrates I am important to the success of the company." and "My manager (Senior management) at my company really cares about my well-being." Internal consistency reliability is high ($\alpha=.87$, direct manager; $\alpha=.93$, senior management). Competence was measured with "My manager (Senior management) has the ability to deal with the challenges we face." and "My manager (Senior management) is knowledgeable about the work that needs done." Internal consistency reliability is high ($\alpha=.88$, direct manager; $\alpha=.83$, senior management). Integrity was measured with "When my manager (senior management) says something, I can believe it's true." and "My manager (Senior management at my company) keeps his/her (their) commitments." Internal consistency reliability is high ($\alpha=.89$, direct manager; $\alpha=.86$, senior management).

We would not necessarily expect the components of trustworthiness to correlate (Mayer, et al., 1995); yet, the internal consistency reliability for the entire 6-item scale, including 2 items from each of the components, is actually pretty high ($\alpha=.95$, direct manager; $\alpha=.94$, senior management). To further examine the psychometric properties of the 6-item measure of trustworthiness, I fit two confirmatory factor analytic models to the data for each trust referent: the first with indicators loading on three correlated factors,

and the second with all indicators loading on a general factor. Fit statistics suggest the three factor model is a better fit for both direct manager (1 factor CFI=.97, RMSEA=.14; 3 factors CFI=.99, RMSEA=.09) and senior management (1 factor CFI=.93, RMSEA=.22; 3 factors CFI=.99, RMSEA=.08), though CFI values suggest the general factor model is not a bad fit for either referent. In the end, I computed trustworthiness sub-scales, one each for benevolence, competence, and integrity; but, I also computed a single trustworthiness scale score by taking the mean of all 6 items.

Relationship length was measured with a single item “How long have you been employed by your organization?” Response options were 1 = Less than 1 year, 2 = 1 to 2 years, 3 = 3 to 5 years, 4 = 6 to 10 years, 5 = 11 to 15 years, and 6 = More than 15 years. Since the question is about length of employment with the organization, I thought it was appropriate to use as a measure of relationship length for employees and their senior leaders.

Job complexity was assessed using The Occupational Information Network, or O*NET (<http://www.onetonline.org/>). Employees were asked “Which of the following best describes the kind of job you have?” Response categories with examples are provided in Table 2. The O*NET presents the importance and level of complex problem solving skills required for a vast array of jobs. Jobs with the highest importance and level include chief executives, administrators, managers, supervisors, physicians, scientists, engineers, lawyers, etc. Therefore, I created a high complexity job group made up of my Executive/Senior Manager, Manager, Supervisor, and Professional job type categories (n = 1,987). Jobs with the lowest importance and level include maids, food servers, typists, clerks, administrative assistants, taxi and bus drivers, and an assortment of laborers and

machine operators. Therefore, I created a low complexity job group made up of my Clerical, Laborers, Operative, and Service categories (n = 1,617). Sales and insurance personnel, technicians and technologists, mechanics, and other skilled labor fall somewhere in between these two groups. So, I created a medium job complexity group made up of my Sales, Technical, and Crafts/Skilled Trades categories (n = 1,152).

Turnover intentions were measured with four items, including “I rarely think about looking for a new job with another company.”, “Even if I were given an opportunity elsewhere, I would stay at my organization.”, “I have no plans to leave my organization within the next year.”, and “I am seriously considering leaving my company within the next 12 months. (If you are retiring within the next 12 months or if you are going on leave, please indicate ‘not applicable.’)”. All items were rated on a 5-point agreement scale, as described earlier, though the fourth item was reverse scored. Internal consistency reliability is high ($\alpha=.90$). A turnover intentions scale score was computed by taking the mean across all four items.

Risk was measured in two ways, one more objective than the other. First, objective risk was assessed by five items measuring the degree of organizational change reported by the subordinate. Items included “My organization has laid off employees in the last 12 months due to a downturn in business.”, “My organization has been merged with, or acquired by another organization in the last 12 months.”, “My organization has acquired another organization in the last 12 months.”, “Within the past year, my organization has off-shored jobs or functions (i.e., sent work historically performed within this country to another country).”, and “Within the past year, my organization has outsourced jobs or functions to a consulting or third party contracting firm resulting in the

elimination of jobs.” The response scale for these three items was 1=Yes, 0=No, and “I Don’t Know” (coded as missing). An index score was computed by taking the sum of the five items, so that higher scores mean more instances of organizational change. Second, perceived risk was assessed with a single item about lay-off threat: “I currently feel confident that I will not be laid off from my job.” This item was rated on the 5-point agreement scale, as described earlier, though reverse scored so that higher scores mean greater perceived risk.

The existence of controls in the organization was assessed by two items: “I am represented by a union.” and “My organization has published a ‘Code of Conduct’, or other formal document outlining ethical practices.” The response scale for these two items was 1=Yes, 0=No, and “I Don’t Know” (coded as missing). An index score was computed by taking the sum of these two items, so that higher scores mean more instances of organizational controls.

Job satisfaction was measured with 5 items from the scale published by Brayfield and Rothe (1952; $\alpha=.82$). Affective organizational commitment was measured with 6 items from the scale published by Meyer and Allen (1991; $\alpha=.95$). Descriptive statistics for each scale are presented in Table 4.

Analyses

H1a and H1b (i.e., propensity to trust is moderately, positively related to trust in leadership) were tested using Pearson product moment correlations, interpreting the statistical and practical significance of the effect sizes. RQ1a and RQ1b (i.e., is propensity to trust directly or indirectly related to trust in leadership?) were examined

Table 4
Descriptive Statistics for all Study Variables

	N	M	SD	Mdn	Min	Max
Propensity to Trust	4,981	2.93	0.85	3.00	1	5
Direct Manager Trustworthiness	4,990	3.53	1.03	3.83	1	5
Direct Manager Benevolence	4,984	3.4	1.12	3.50	1	5
Direct Manager Competence	4,979	3.64	1.07	4.00	1	5
Direct Manager Integrity	4,986	3.55	1.12	4.00	1	5
Trust in Direct Manager	4,972	3.55	1.20	4.00	1	5
Senior Management Trustworthiness	4,990	3.34	1.07	3.50	1	5
Senior Management Benevolence	4,964	3.15	1.21	3.00	1	5
Senior Management Competence	4,974	3.52	1.08	4.00	1	5
Senior Management Integrity	4,964	3.36	1.11	3.50	1	5
Trust in Senior Management	4,962	3.37	1.24	4.00	1	5
Relationship Length	5,000	.	.	4 ^a	1	6
Job Complexity	3,326	0.35	.	.	0	1
Turnover Intentions	4,993	3.59	1.08	3.75	1	5
Objective Risk	4,892	0.95	1.16	1.00	0	5
Laid-off employees	4,399	0.43	0.5	0.00	0	1
Acquired by another organization	4,756	0.1	0.29	0.00	0	1
Acquired another organization	4,547	0.18	0.38	0.00	0	1
Off-shored jobs	4,319	0.14	0.35	0.00	0	1
Outsourced jobs	4,203	0.21	0.41	0.00	0	1
Subjective Risk	4,937	2.27	1.14	2.00	1	5
Formal Controls	4,914	1.00	0.58	1.00	0	2
Represented by Union	4,826	0.20	0.4	0.00	0	1
Code of Conduct	4,632	0.86	0.35	1.00	0	1
Job Satisfaction	4,989	3.52	0.87	3.60	1	5
Organizational Commitment	4,988	3.33	1.08	3.50	1	5

^a 4 = 6 to 10 years.

two ways: 1) with the mediational analysis approach outlined by Baron and Kenny (1986) and 2) with a model comparison approach using path analysis in SPSS Amos. In the mediational analysis approach, trust in leadership was regressed on propensity to trust and trustworthiness. In hierarchical fashion, propensity to trust was entered in the first step and each trustworthiness subscale was entered in the second step. Decrements in the

propensity to trust coefficient effect size and statistical significance from step one to two were interpreted. In the model comparison approach, propensity to trust and trustworthiness were exogenous variables, and trust in leadership was an endogenous variable. Moving from the less restricted model (i.e., relationships between propensity to trust and trustworthiness allowed to vary) to the more restricted model (i.e., relationships constrained to be zero), statistically significant decrements in model fit were interpreted.

H2a and H2b (i.e., leader benevolence, competence, and integrity are strongly, positively related to trust in leadership), RQ2a and RQ2b (i.e., what is the relative importance of leader benevolence, competence, and integrity to trust in leadership?), and RQ3 (i.e., is relative importance similar across trust referents?) were tested using Pearson product moment correlations, multiple regression, and RWA. H3 (i.e., trust in direct manager is moderately, positively related to trust in senior management) was tested by two hierarchical multiple regressions, first regressing trust in senior management on trust in direct manager, and second regressing trust in direct manager on trust in senior management. In each regression, propensity to trust was entered in the first step, trust in leadership in the second, and the trust in leadership coefficient effect size and statistical significance was interpreted.

H4a (i.e., senior management integrity will be relatively more important earlier in organizational tenure), H4b (i.e., senior management benevolence will be relatively more important later in organizational tenure), and H5a and H5b (i.e., competence will be relatively more important in more complex job types) were tested using moderated multiple regression (Baron & Kenny, 1986), supplemented by RWA. For H4a and H4b, trust in senior management was regressed onto each trustworthiness subscale and

organizational tenure in the first step, and tenure-by-trustworthiness product terms in the second step, interpreting the statistical and practical significance of the change in R^2 .

RWA was used to evaluate the relative importance of each trustworthiness subscale to trust in senior management by organizational tenure. For H5a and H5b, trust in leadership was regressed onto the competence subscale and dummy-coded job complexity variables in the first step, and job complexity-by-competence product terms in the second step, interpreting the statistical and practical significance of the change in R^2 and coefficients. When the interaction term was statistically significant, RWA was used to evaluate the relative importance of each trustworthiness subscale to trust in leadership by job complexity.

H6a and H6b (i.e., trust in leadership is negatively related to turnover intentions) were tested hierarchical multiple regression supplemented by RWA. Turnover intentions was regressed on trust in leadership, entering job satisfaction and organizational commitment first, followed by trust in leadership, and the statistical and practical significance of the change in R^2 , regression coefficients, and relative weights were interpreted. H7a and H7b (i.e., risk will moderate the relationship between trust in leadership and turnover intentions), and H8a and H8b (i.e., controls will moderate the relationship between trust in leadership and turnover intentions) were tested using moderated multiple regression. For H7a and H7b, turnover intentions was regressed onto trust in leadership and risk (objective and subjective) in the first step, and trust-by-risk product terms in the second step, interpreting the statistical and practical significance of the change in R^2 . For H8a and H8b, turnover intentions was regressed onto trust in

leadership and controls in the first step, and a trust-by-control product term in the second step, interpreting the statistical and practical significance of the change in R^2 .

While many of the previously mentioned statistical techniques are comparatively well-known, RWA may be less familiar. RWA is a method of estimating a predictor's relative importance and is a useful supplement to multiple regression. Relative importance helps researchers and practitioners identify the most valuable and relevant predictors in a model. This information is useful to both theory development and practical decision-making. From a theoretical perspective, relative importance adds nuanced information about the prominence of antecedents and consequents in a construct's nomological net. From an applied perspective, practitioners are often challenged by their clients to do more with less due to limited resources. For example, a human resource manager developing an intervention to decrease voluntary turnover may need to identify and focus on only the most important drivers of this phenomenon to meet the competing demands of maximizing intervention effectiveness and minimizing intervention cost.

Researchers can define relative importance in many ways (Johnson, 2000; Johnson & LeBreton, 2004), but for the purposes of this study I have defined it as a predictor's proportionate contribution to R^2 , considering both unique contribution and contribution combined with other predictors. Where multiple regression estimates a predictor's unique contribution holding all other predictors in the model constant, RWA estimates a predictor's unique contribution plus its contribution that is in common with other predictors in the model. I am interested in both unique and shared variance and thus chose RWA.

RWA includes a four step process. First, the original predictors are rotated to obtain orthogonal predictors. Second, the criterion is regressed onto these orthogonal predictors to obtain criterion-on-orthogonal standardized regression coefficients. Third, each of the original predictors is regressed onto all the orthogonal predictors, to obtain a set of original-on-orthogonal standardized regression coefficients, one set for each original predictor. Fourth, for each original predictor, every criterion-on-orthogonal coefficient and its corresponding original-on-orthogonal coefficient are squared and multiplied together, and these product terms are summed. This summed value is that original predictor's relative weight; the fourth step is repeated for each original predictor. All of the relative weights should sum approximately to R^2 , and they can be expressed as a percentage of the total variance explained. This technique does not require an inherent predictor order, accounts for incremental contribution relative to other variables in the model, and effectively addresses the correlated-predictors problem.

Power and sample size requirements in RWA are approximately similar to those in multiple linear regression. In RWA, power is a matter of effect size (RW), sample size, number of predictors, predictor multicollinearity, and nominal alpha level (Tonidandel, LeBreton, & Johnson, 2009). Interestingly, power increases (and thus sample size requirements decrease) with the number of predictors and the degree of multicollinearity (Tonidandel & LeBreton, 2011), though their impact is small in magnitude (Tonidandel, LeBreton, & Johnson, 2009). Because relative weights are a new kind of effect size, we do not know the shape of the population distribution. So, we have to use bootstrapping to estimate the standard errors, making significance testing cumbersome, though not impossible. But in RWA, type I error (rejecting the null hypothesis when it is true) rates

are conservative, which means the probability of making a type I error is actually lower than nominal alpha (Tonidandel, LeBreton, & Johnson, 2009). Given this, my sample sizes, and the high degree of intercorrelation between my measures, in general I think my risk of making a type I error is reasonably low enough to be confident about my estimates.

Results

H1a and H1b were both supported; correlations are presented in Table 5, uncorrected and corrected for attenuation ($r_{xy'} = r_{xy} / \sqrt{r_{xx} * r_{yy}}$). Regarding H1a (i.e., subordinates' propensity to trust is moderately, positively related to subordinates' trust in their direct manager), I found subordinates' propensity to trust is moderately, positively correlated with subordinates' trust in their direct manager ($r=.35, p<.05; \rho=.41$, corrected for propensity to trust scale reliability only). Regarding H1b (i.e., subordinates' propensity to trust is moderately, positively related to subordinates' trust in the senior management of their organization), I found subordinates' propensity to trust is moderately-to-strongly, positively correlated with subordinates' trust in the senior management of their organization ($r=.44, p<.05; \rho=.51$, corrected for propensity to trust scale reliability)⁹.

⁹ Effect sizes for both of these relationships are notably higher than the effect sizes estimated by Colquitt and colleagues (2007; $r=.16; \rho=.22$). Differences may be attributed to at least two reasons. First, my estimates may be inflated due to the same-source nature of my data. Second, Colquitt's and colleagues' estimates may be biased due to sampling error given the relatively small meta-analytic sample sizes ($k=5, N=699$).

Table 5
Correlations between all Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Propensity to Trust	.73	.41	.50	.53	.45	.48	.51	.60	.59	.57	.61	-.07	-.01	-.03	-.28	.10	.22	.55	.37
2. Trust in DM	.35	-	.91	.88	.85	.94	.63	.68	.63	.67	.70	-.10	.05	-.13	-.35	.14	.56	.64	.58
3. DM Trustworthiness	.42	.89	.95	1	1	1	.74	.83	.79	.81	.82	-.09	.06	-.14	-.41	.17	.66	.76	.68
4. DM Benevolence	.42	.82	.93	.87	.90	.95	.72	.83	.84	.76	.79	-.07	.08	-.14	-.42	.21	.67	.80	.71
5. DM Competence	.36	.80	.93	.79	.88	.95	.69	.79	.72	.82	.77	-.11	.02	-.18	-.38	.15	.61	.70	.63
6. DM Integrity	.39	.89	.95	.84	.84	.89	.74	.80	.74	.78	.81	-.09	.07	-.13	-.39	.18	.62	.72	.65
7. Trust in SM	.44	.63	.72	.67	.65	.70	-	.91	.83	.90	.93	-.12	.02	-.19	-.44	.03	.61	.75	.64
8. SM Trustworthiness	.50	.66	.78	.75	.72	.73	.88	.94	.99	1	1	-.11	.02	-.18	-.46	.09	.66	.84	.71
9. SM Benevolence	.49	.61	.74	.76	.65	.67	.80	.93	.93	.89	.92	-.07	.04	-.16	-.41	.12	.64	.83	.70
10. SM Competence	.44	.61	.72	.65	.70	.67	.82	.93	.78	.83	1	-.13	-.13	-.20	-.46	.09	.65	.79	.68
11. SM Integrity	.48	.65	.74	.68	.67	.71	.86	.95	.82	.86	.86	-.12	.01	-.21	-.46	.03	.64	.81	.69
12. Relationship Length	-.06	-.10	-.09	-.06	-.10	-.08	-.12	-.10	-.07	-.12	-.12	-	.16	.12	-.01	.45	.05	.05	.13
13. Job Complexity	-.01	.05	.06	.07	.02	.06	.02	.02	.04	-.01	.01	.16	-	.02	-.06	.28	.16	.11	.09
14. Objective Risk	-.02*	-.10	-.11	-.10	-.13	-.10	-.15	-.14	-.12	-.14	-.15	.09	.02	.62	.33	.32	-.20	-.14	-.21
15. Subjective Risk	-.24	-.35	-.40	-.39	-.36	-.37	-.44	-.45	-.40	-.42	-.43	-.01	-.06	.26	-	-.25	-.39	-.42	-.48
16. Formal Controls	.03*	.05	.06	.07	.05	.06	.01*	.03	.04	.03	.01*	.16	.10	.09	-.09	.13	.34	.28	.44
17. Job Satisfaction	.17	.51	.58	.57	.52	.53	.55	.58	.56	.54	.54	.05	.15	-.14	-.35	.11	.82	.78	.79
18. Org. Commitment	.46	.62	.72	.73	.64	.66	.73	.79	.78	.70	.73	.04	.11	-.11	-.41	.10	.69	.95	.81
19. Turnover Intentions	.30	.55	.63	.63	.56	.58	.61	.65	.64	.59	.61	.13	.09	-.16	-.46	.15	.68	.75	.90

Note. DM = Direct Manager. SM = Senior Management. Cronbach's alpha is presented on the diagonal, except for single-item scales. All correlations are statistically significant at the $p < .05$ level, unless otherwise indicated (*). Values above the diagonal have been correct for predictor and criterion unreliability.

Regarding RQ1a and RQ1b (i.e., is subordinates' propensity to trust directly related to trust in leadership or indirectly related through perceptions of trustworthiness?), results suggest subordinates' propensity to trust affects trust itself through the subordinate's perceptions of trustworthiness, regardless of the referent (direct manager or senior management). I addressed these questions in two ways: first I used mediational analysis and second I used a model comparison approach with path analysis.

I followed the protocol outlined by Baron and Kenny (1986). The relationship (standardized regression coefficient) between employees' propensity to trust with trust in direct manager and trust in senior management are .35 and .44, respectively (Table 5). In both cases, this relationship dips to essentially zero when trustworthiness is added. In Table 6, when perceptions of direct manager trustworthiness are added to the model regressing trust in senior management on propensity to trust, the standardized regression coefficient for propensity to trust drops from .35 to -.03 (though still statistically significant, $p = .00$). Similarly, in Table 7, when perceptions of senior management

Table 6
A Mediated Model of Employee Propensity to Trust, Perceptions of Direct Manager Trustworthiness, and Trust in Direct Manager

Model		Unstandardized Coefficients	S.E.	Standardized Coefficients	t	p-value
1	PT	.49	.02	.35	26.11	.00
2	PT	-.04	.01	-.03	-4.25	.00
	DMB	.24	.01	.225	18.92	.00
	DMC	.15	.01	.137	11.69	.00
	DMI	.64	.01	.596	44.93	.00

Note. Criterion variable is Trust in Direct Manager. PT = Propensity to Trust, DMB = Direct Manager Benevolence, DMC = Direct Manager Competence, and DMI = Direct Manager Integrity. Model 2 $R^2 = .81$, $p = .00$.

Table 7

A Mediated Model of Employee Propensity to Trust, Perceptions of Senior Management Trustworthiness, and Trust in Senior Manager

Model		Unstandardized Coefficients	S.E.	Standardized Coefficients	t	p-value
1	PT	.65	.02	.44	34.59	.00
2	PT	.00	.01	.00	.40	.69
	SMB	.24	.01	.24	19.09	.00
	SMC	.26	.02	.23	16.78	.00
	SMI	.52	.02	.47	31.45	.00

Note. Criterion variable is Trust in Senior Management. PT = Propensity to Trust, SMB = Senior Management Benevolence, SMC = Senior Management Competence, and SMI = Senior Management Integrity. Model 2 $R^2 = .78$, $p = .00$.

trustworthiness are added to the model, the standardized regression coefficient drops from .44 to .00 ($p = .69$). Results of both sets of analyses indicate evaluations of referent trustworthiness fully mediates the relationship between trustor propensity to trust and trust itself.

I also compared three models for both referents (direct manager and senior management). In the baseline unconstrained model (M1) the relationships between propensity to trust, trustworthiness, and trust itself were all free to vary (see Figures 3a and 3b). In the first constrained model (M2), the relationship between propensity to trust and trustworthiness was constrained to be zero (see Figures 4a and 4b). In the second constrained model (M3), the relationship between propensity to trust and trust itself was constrained to be zero (see Figures 5a and 5b). Then, I compared fit statistics of the more constrained models (M2 and M3) to those of the less constrained model (M1).

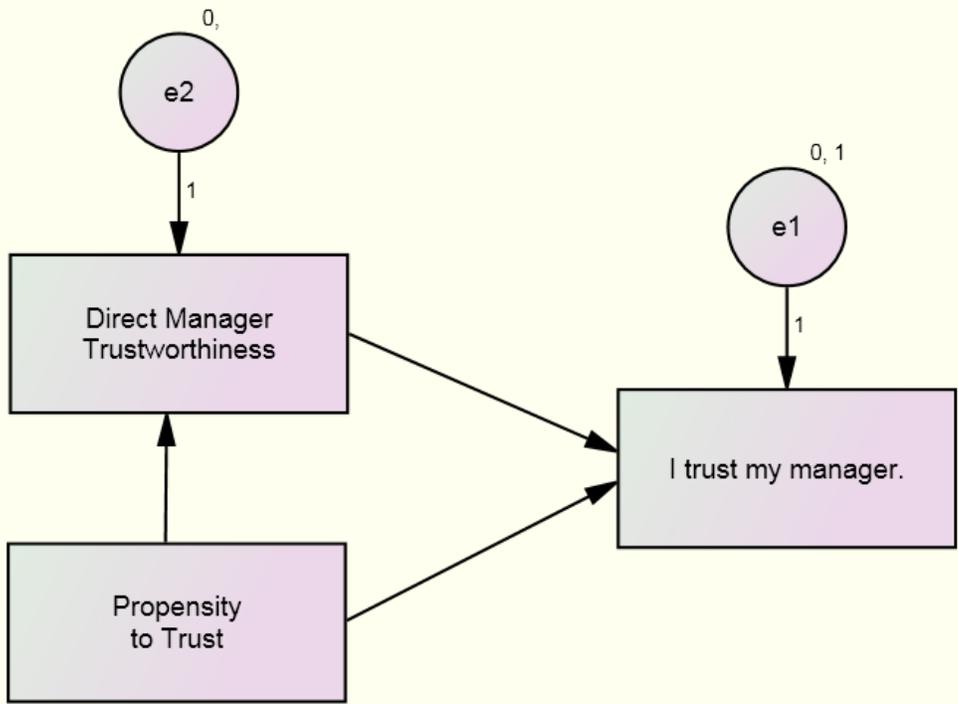


Figure 3a. Unconstrained model for direct manager (M1). $\chi^2(1)=2,586$; $p=.00$; CFI=.71; RMSEA=.72.

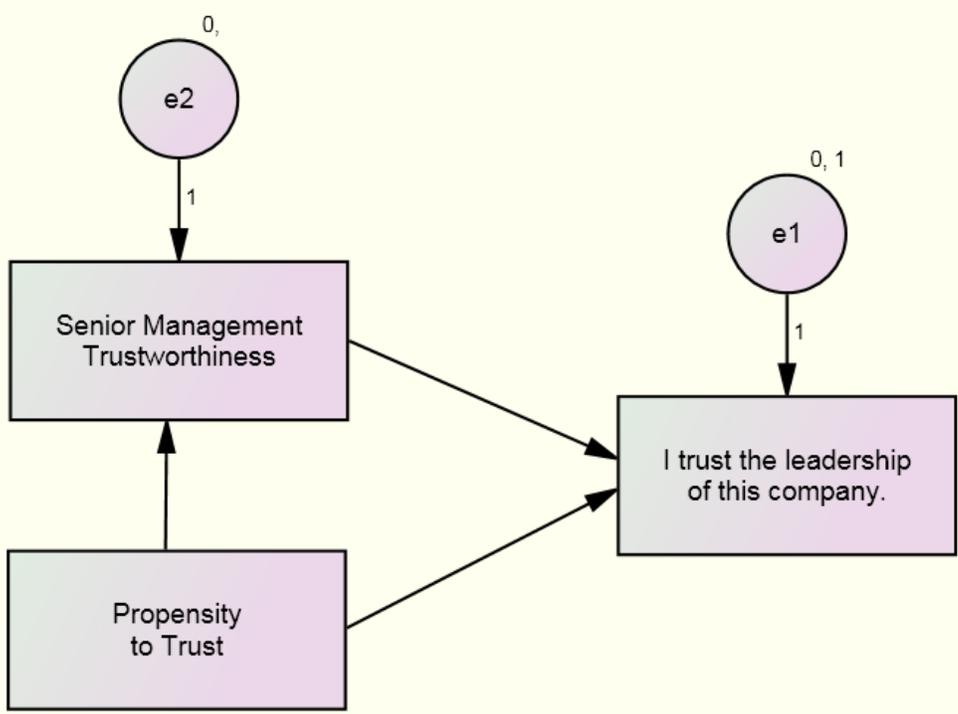


Figure 3b. Unconstrained model for senior management (M1). $\chi^2(1)=2,004$; $p=.00$; CFI=.77; RMSEA=.63.

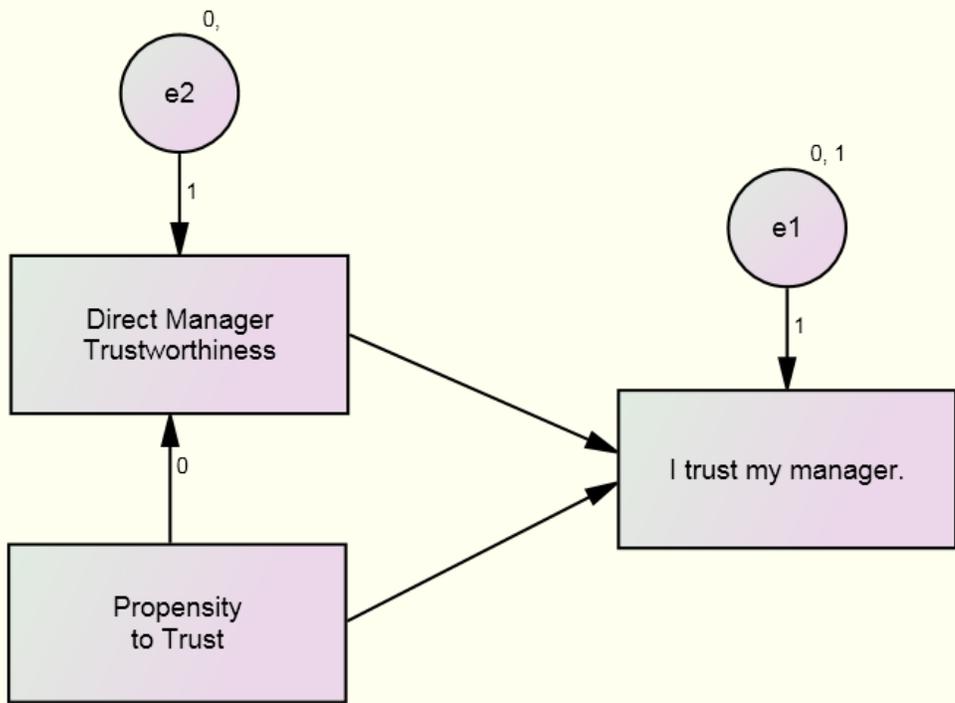


Figure 4a. Constrained model 1 for direct manager (M2). $\chi^2(2)=3,529$; $p=.00$; CFI=.60; RMSEA=.59.

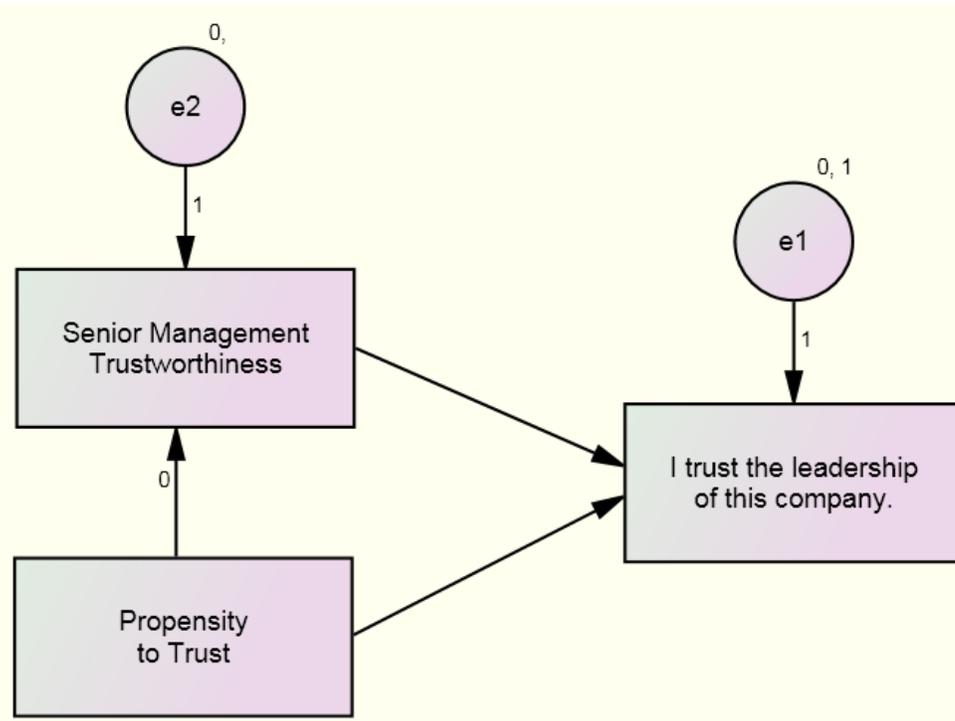


Figure 4b. Constrained model 1 for senior management (M2). $\chi^2(2)=3,435$; $p=.00$; CFI=.61; RMSEA=.59.

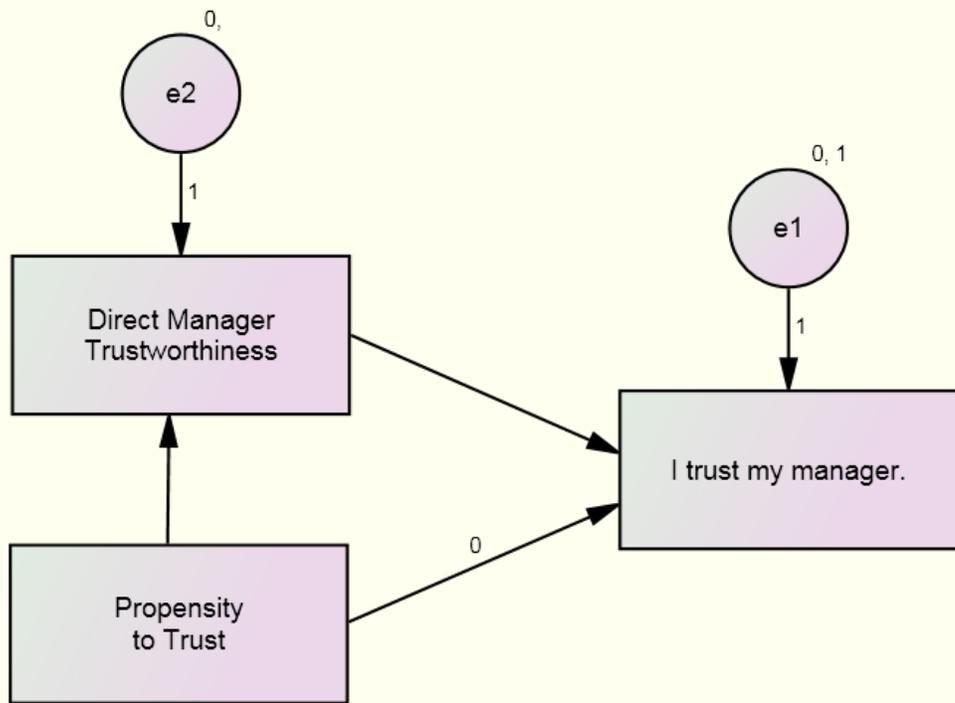


Figure 5a. Constrained model 2 for direct manager (M3). $\chi^2(2)=2,591$; $p=.00$; CFI=.71; RMSEA=.51.

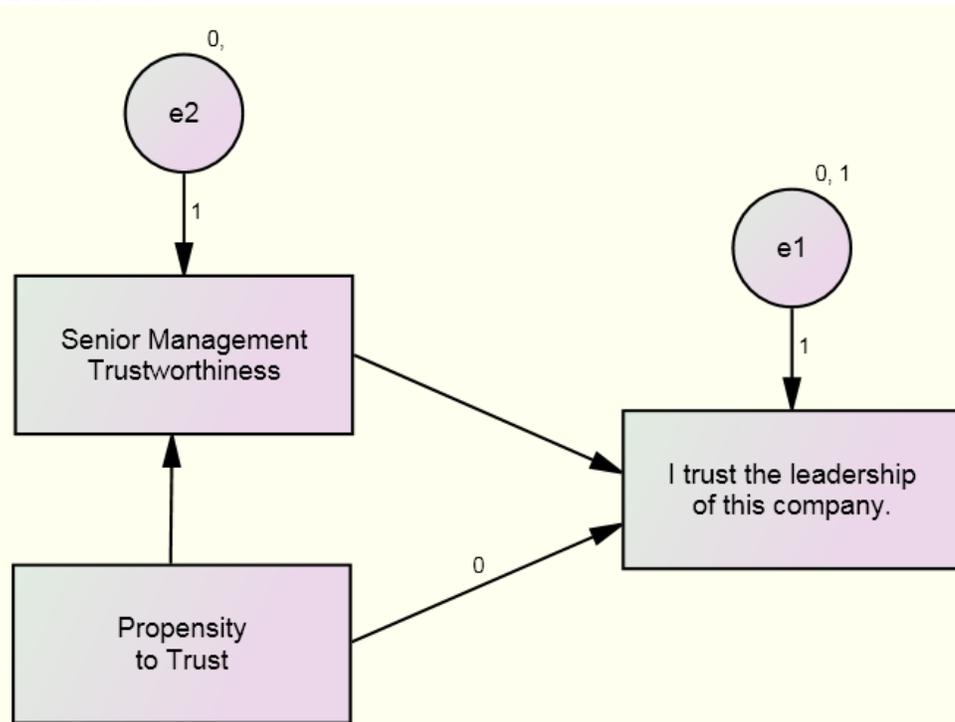


Figure 5b. Constrained model 2 for senior management (M3). $\chi^2(2)=2,005$; $p=.00$; CFI=.77; RMSEA=.45.

Fit index guidelines vary by whether absolute or difference in fit is evaluated. For absolute fit, values of root mean square error of approximation (RMSEA) less than .05 indicate good fit, between .05 and .08 indicate moderate fit, and greater than .10 indicates poor fit (Browne & Cudeck, 1993). Also, values of the comparative fit index (CFI) between .90 and .95 indicate acceptable fit, with values closer to 1.00 indicating even better fit (Hu & Bentler, 1995; 1999). For difference in fit, the guidelines suggest values of the CFI less than or equal to -0.01 indicate the more constrained model fits significantly worse than the less constrained model (Cheung & Rensvold, 2002). Given the model comparison strategy I adopted to explore these research questions, I was more concerned with difference in fit and less so with absolute fit.

Fit statistics for each model are presented in Table 8. The absolute fit statistics of each model indicate poor fit, because I constrained the variance of the error term for trust to be 1, an assumption of ordinary least squares regression. Otherwise my degrees of freedom in the unconstrained model would have been zero and my model would have been under-identified (i.e., I would not have had enough independent pieces of information to estimate all of the parameters). Since I am not particularly interested in the error term for trust, and I have an expected value of this parameter based on an assumption of a common and related analytic technique, I chose to constrain this parameter to have a variance of 1 (by default, this parameter's mean was also constrained to zero). In fact, when the error variance was freed in M3 for senior management, the fit statistics improved markedly: the CFI went from .77 to essentially 1 and the RMSEA went from .45 to essentially 0. To ensure I was comparing apples to apples across models, I constrained the error variance for trust across all models.

Table 8
Comparison of CFI Model Fit Statistics

	M1	M2	M2-M1	M3	M3-M1
Direct Manager	0.71	0.60	-0.11	0.71	0.00
Senior Management	0.77	0.61	-0.16	0.77	0.00

Note. M1 is the unconstrained model in which all relationships are free to vary. In M2, the relationship between propensity to trust and trustworthiness is constrained to be zero. In M3, the relationship between propensity to trust and trust in leadership is constrained to be zero.

Change in CFI from M1 to M2 indicates a substantial decrement in fit (-.11 for direct manager and -.16 for senior management), while change in CFI from M1 to M3 indicates essentially the same degree of fit. These results and results of the mediational analysis suggest the best fitting model is M3, wherein propensity to trust leads to trust in leadership through evaluations of trustworthiness.

Regarding H2a (i.e., direct manager benevolence, competence, and integrity are strongly, positively related to subordinates' trust in their direct manager), Table 5 presents uncorrected and corrected¹⁰ correlations of direct manager benevolence, competence, and integrity with trust in direct manager. Trust in direct manager is very strongly, positively related to evaluations of direct manager benevolence ($r = .82, p = .00; \rho = .88$), competence ($r = .80, p = .00; \rho = .85$), and integrity ($r = .89, p = .00; \rho = .94$). Regarding H2b (i.e., senior management benevolence, competence, and integrity are strongly, positively related to subordinates' trust in their senior management), Table 5 also shows trust in senior management is very strongly, positively related to evaluations

¹⁰ These correlations were corrected for trustworthiness subscale reliability only.

of senior management benevolence ($r = .80, p = .00; \rho = .83$), competence ($r = .82, p = .00; \rho = .90$), and integrity ($r = .86, p = .00; \rho = .93$).¹¹

Regarding RQ2a, RQ2b, and RQ3, results of the multiple regressions and RWA are presented in Table 9. Regarding RQ2a and RQ2b (i.e., what is the relative importance of leader benevolence, competence, and integrity to subordinates' trust in leadership?), the squared multiple correlation is .81 for trust in direct manager and .78 for trust in senior management. Propensity to trust was practically unrelated to both trust in direct manager ($\beta = -0.03, p = .00, RW = .03$) and trust in senior management ($\beta = 0.00, p = .69, RW = .05$) when the trustworthiness subscales were included in the equations. Results of the RWA suggest benevolence and competence are about equally important to trust in both direct manager (30, 28, and 39%, respectively) and senior management (28, 30, and 35%, respectively). Integrity emerges as the most important direct determinant of trust.

Table 9
Results of Regressing Trust in Leadership on Propensity to Trust, Benevolence, Competence, and Integrity

	Beta	T	P	RW	RW%
Trust in Direct Manager ($R^2 = .81, F(4, 4,948) = 5,371, p = .00$)					
Trust Propensity	-0.03	-4.25	.00	0.03	4%
Benevolence	0.23	18.92	.00	0.24	30%
Competence	0.14	11.69	.00	0.22	28%
Integrity	0.60	44.93	.00	0.32	39%
Trust in Senior Management ($R^2 = .78, F(4, 4,903) = 4,417, p = .00$)					
Trust Propensity	0.00	0.40	.69	0.05	7%
Benevolence	0.24	19.09	.00	0.22	28%
Competence	0.23	16.78	.00	0.23	30%
Integrity	0.47	31.45	.00	0.27	35%

Note. RW is the raw relative weight. RW% is raw relative weight expressed as a percent of R^2 . Beta is standardized regression coefficient.

¹¹ These correlations far exceed estimates found in the literature ($\rho = .63, .67, \text{ and } .62$, respectively; Colquitt, et al., 2007).

Propensity to trust is the least important to trust, accounting for a meager 4% of the explainable variance for direct manager and 7% for senior management.

In answer to RQ3 (i.e., is the relative importance of benevolence, integrity, competence similar across trust referents?), the relative importance of each trustworthiness component to trust in direct manager is similar the relative importance of each component to trust in senior management. However, integrity seems to be a little more important to trust in direct manager than to trust in senior management, while propensity to trust seems to be more important to trust in senior management than to trust in direct manager.

Regarding H3 (i.e., controlling for subordinate's propensity to trust, a moderate, positive correlation exists between subordinates' trust in their direct manager and trust in senior management), the correlation between trust in direct manager and senior management is .63 ($p < .05$), which means about 40% of the variance in trust in direct manager is explained by trust in senior management, and vice versa. Additionally, I examined the contribution of trust in one referent to the other, controlling for subordinates' tendency to trust others in general. To this end, I conducted two hierarchical linear regressions, one for trust in each referent, wherein I first entered propensity to trust. Results from these analyses are presented in Table 10. Controlling for the tendency to trust others in general, trust in direct manager accounts for 28% of trust in senior management, and trust in senior management accounts for 26% of trust in direct manager. These values are 12 and

14% less than the estimate based on the correlation between trust in direct manager and senior management.¹²

Table 10
The Relationship Between Trust in Direct Manager and Senior Management

	R ²	ΔR ²	F	df1	df2	p
Trust in Direct Manager						
Propensity to Trust	.12					
Trust in Sr. Management	.40	.28	2,312	1	4,937	.00
Trust in Senior Management						
Propensity to Trust	.20					
Trust in Direct Manager	.45	.26	2,312	1	4,937	.00

Regarding H4a (i.e., senior management integrity will be relatively more important to subordinates' trust in senior management earlier in the subordinates' organizational tenure) and H4b (i.e., senior management benevolence will be relatively more important to subordinates' trust in senior management later in the subordinates' organizational tenure), results of the moderated multiple regressions¹³ are presented in Table 11 and results the RWA are presented in Table 12. Neither H4a nor H4b were supported. None of the interaction terms between tenure and trustworthiness were statistically significant. The relative importance of integrity to trust in direct manager did not vary substantially or meaningfully across organizational tenure. Further, integrity consistently emerged as the most important determinant of trust in senior management across organizational tenure. Despite a non-significant interaction term, the relative importance of benevolence to trust in senior management did vary across

¹² These values are still notably larger than meta-analytic estimates ($r = .38$; $r^2 = 14\%$; Dirks & Ferrin, 2002). Again, my estimates may be inflated due to same-source data, and existing estimates may be biased due to sample-level sampling error ($k = 6$, $N = 1,159$).

¹³ Each of the trustworthiness subscales was mean-centered.

Table 11
The Moderating Effect of Organizational Tenure on the Relationship of Benevolence, Competence, and Integrity with Trust in Senior Management

M		Beta	<i>t</i>	<i>P</i>	<i>R</i> ²	ΔR^2	<i>F</i>	df1	df2	<i>p</i>
1	SMB	0.24	19.66	.00	.78					
	SMC	0.23	16.68	.00						
	SMI	0.47	31.58	.00						
	Tenure	-0.02	-2.81	.01						
2	SMB	0.22	6.84	.00						
	SMC	0.20	5.53	.00						
	SMI	0.50	12.85	.00						
	Tenure	-0.02	-2.87	.00						
	Tenure*SMB	0.03	0.78	.44						
	Tenure*SMC	0.03	0.80	.42						
	Tenure*SMI	-0.04	-0.92	.36						
					.78	.00	0.67	3	4,908	.57

Note. SMB = Senior Management Benevolence, SMC = Senior Management Competence, and SMI = Senior Management Integrity

Table 12
Relative Importance of Benevolence, Competence, and Integrity to Trust in Senior Management by Tenure

Tenure	<i>N</i>	Propensity to Trust	Benevolence	Competence	Integrity	<i>R</i> ²
Less than 1 year	421	.05 (6%)	.19 (25%)	.23 (31%)	.28 (37%)	.74
1 to 2 years	622	.04 (5%)	.21 (28%)	.23 (30%)	.27 (36%)	.75
3 to 5 years	1,241	.06 (8%)	.22 (29%)	.21 (28%)	.27 (35%)	.76
6 to 10 years	1,076	.05 (7%)	.23 (29%)	.24 (30%)	.27 (34%)	.79
11 to 15 years	568	.05 (6%)	.23 (28%)	.25 (30%)	.30 (36%)	.83
More than 15 years	1,072	.06 (7%)	.23 (29%)	.25 (31%)	.27 (33%)	.80

Note. Value in parentheses is relative weight expressed as a percent of *R*².

organizational tenure in the expected direction. However, while I did observe the largest relative weight for benevolence when tenure is 6 years or more and the smallest when tenure is less than 1 year, the difference seems practically small ($\Delta RW = 0.04$). Notably, I did not observe a linear relationship between the relative importance of benevolence and tenure; relative importance seems to increase slightly until about 6 years of tenure are reached, at which point it seems to plateau.

H5a and H5b (i.e., leader competence will be relatively more important to subordinates' trust in leadership in more complex job types) were tested using moderated multiple regression. Neither hypothesis was supported. Results of the moderated multiple regression are presented in Tables 13 and 14, respectively, regressing trust in leadership on the leader competence subscale, then two dummy-coded job complexity variables (i.e., I dummy coded low and high job complexity, and used medium job complexity as my comparison group), and then two job complexity-by-competence interaction terms. While the change in R^2 from step one to step two was statistically significant, neither the change in R^2 from step two to three nor the interaction terms were statistically significant. Therefore, job complexity has no effect on the relationship between leader competence and trust in leadership. As a result of this non-significant finding, I halted my analysis and did not evaluate the relative importance of leader competence to trust in leadership by job complexity.

Table 13
The Moderating Effect of Job Complexity on the Relationship Between Direct Manager Competence and Trust in Direct Manager

M		Beta	<i>t</i>	<i>p</i>	R^2	ΔR^2	<i>F</i>	df1	df2	<i>p</i>
1	Competence	0.80	92.94	.00	.646	-	8637.10	1	4,720	.00
2	Competence	0.80	92.90	.00						
	Lo Complexity	-0.03	-2.31	.02						
	Hi Complexity	0.00	.35	.73	.647	.001	5.09	2	4,718	.01
3	Competence	0.80	46.80	.00						
	Lo Complexity	-0.03	-2.28	.02						
	Hi Complexity	0.00	.35	.72						
	Lo*Competence	0.00	.11	.91						
	Hi*Competence	0.01	.87	.39	.647	.000	.50	2	4,716	.61

Table 14
The Moderating Effect of Job Complexity on the Relationship Between Senior Management Competence and Trust in Senior Management

M		Beta	<i>t</i>	<i>P</i>	R ²	ΔR ²	<i>F</i>	df1	df2	<i>p</i>
1	Competence	0.82	98.61	.00	.674			1	4,705	.00
2	Competence	0.82	98.56	.00						
	Lo Complexity	0.00	-.11	.92						
	Hi Complexity	0.02	2.10	.04	.675	.001	3.72	2	4,703	.02
3	Competence	0.80	48.15	.00						
	Lo Complexity	0.00	-.06	.95						
	Hi Complexity	0.02	2.12	.03						
	Lo*Competence	0.01	.51	.61						
	Hi*Competence	0.02	1.54	.13	.675	.000	1.31	2	4,701	.27

Regarding H6a and H6b (i.e., controlling for job satisfaction and organizational commitment, subordinates' trust in leadership will be negatively related to subordinates' turnover intentions), results of the two hierarchical multiple regressions are presented in Table 15. In both cases, trust in direct manager and trust in senior management statistically significantly increment over job satisfaction and organizational commitment in predicting turnover intentions.

However, in both cases, the change in R² and regression coefficient are quite small. Results of two RWAs are presented in Table 16. Both indicate organizational commitment is most important to turnover intentions, followed by job satisfaction, and then trust in leadership. Despite being the least important, estimates of relative importance are substantial for both trust in direct manager (RW% = 19%) and senior management (RW% = 23%).

Table 15
The Incremental Predictive Validity of Trust in Leadership over Job Satisfaction and Organizational Commitment

Model		Beta	<i>t</i>	<i>p</i>	<i>R</i> ²	ΔR^2	<i>F</i>	<i>df1</i>	<i>df2</i>	<i>p</i>
<i>Trust in Direct Manager</i>										
1	JS	0.31	25.65	.00						
	OC	0.53	43.86	.00	.610					
2	JS	0.30	24.34	.00						
	OC	0.48	36.12	.00						
	TDM	0.10	8.63	.00	.616	.006	74.52	1	4,966	.00
<i>Trust in Senior Management</i>										
1	JS	0.31	25.68	.00						
	OC	0.54	44.00	.00	.612					
2	JS	0.30	24.90	.00						
	OC	0.46	31.38	.00						
	TSM	0.11	8.18	.00	.617	.005	66.91	1	4,953	.00

Note. Turnover Intentions is the criterion. JS is job satisfaction. OC is organizational commitment. TDM is trust in direct manager. TSM is trust senior management.

Table 16
The Relative Importance of Trust in Leadership, Job Satisfaction, and Organizational Commitment to Turnover Intentions

	RW	RW%
<i>Trust in Direct Manager</i>		
JS	0.22	35%
OC	0.28	46%
TDM	0.12	19%
<i>Trust in Senior Management</i>		
JS	0.21	34%
OC	0.26	42%
TSM	0.14	23%

Note. JS is job satisfaction. OC is organizational commitment. TDM is trust in direct manager. TSM is trust senior management.

Neither H7a nor H7b (i.e., the degree of risk in the situation will moderate the relationship between subordinate's trust in leadership and subordinates' turnover intentions) were supported (see Table 17). For trust in direct manager, when the objective

risk measure (i.e., the occurrence of lay-offs, mergers, and/or acquisitions) was used, the interaction term does statistically significantly increase R^2 ($\Delta R^2=.001$, $p < .05$), but the effect size is practically non-significant. Further, correlations between trust in direct manager and turnover intentions by number of organizational change events (presented in Table 18) were not in the expected direction (i.e., decrease as the number of change events increase). When the subjective risk measure (i.e., beliefs about being laid-off) was used, the interaction terms does not statistically significantly increase R^2 . For trust in senior management, for either objective or subjective risk, the interaction terms does not statistically significantly increase R^2 .

Table 17
The Moderating Effect of Risk on the Relationship between Trust in Leadership and Turnover Intentions

	R^2	ΔR^2	F	$df1$	$df2$	p
Objective Risk, Trust in DM	.308					
Objective Risk * Trust in DM	.309	.001	5.34	1	4868	.021
Subjective Risk, Trust in DM	.379					
Subjective Risk * Trust in DM	.379	.000	0.59	1	4912	.442
Objective Risk, Trust in SM	.377					
Objective Risk * Trust in SM	.377	.000	0.54	1	4855	.463
Subjective Risk, Trust in SM	.416					
Subjective Risk * Trust in SM	.416	.000	0.14	1	4906	.713

Note. DM = Direct Manager. SM = Senior Management.

Table 18

Trust in Direct Manager Correlated with Turnover Intentions by Objective Risk

Objective Risk	N	r	Lower 95% C.I.	Upper 95% C.I.
0	2,217	.58	.55	.61
1	1,499	.53	.49	.57
2	604	.43	.36	.49
3	344	.55	.47	.62
4	140	.43	.28	.56
5	68	.67	.51	.78

Note. Objective risk is the number of organizational change events. Confidence intervals were computed using Fisher's r-to-z transformation.

Both H8a and H8b (i.e., the presence of control mechanisms will moderate the relationship between subordinates' trust in leadership and subordinates' turnover intentions) were supported (see Table 19). While the effect sizes were small, the change in R^2 was statistically significant for both trust in direct manager ($\Delta R^2 = .003$, $p < .05$) and senior management ($\Delta R^2 = .007$, $p < .05$). Furthermore, as hypothesized, I observed the relationships between both trust in direct manager and senior management with turnover intentions become weaker as the number of formal controls increased (see Table 20).

Table 19

Moderating Effect of Formal Controls on the Relationship Between Trust in Leadership and Turnover Intentions

	R^2	ΔR^2	F	$df1$	$df2$	p
Controls, Trust in Direct Manager	.311					
Controls * Trust in Direct Manager	.314	.003	21.567	1	4890	.00
Controls, Trust in Senior Management	.391					
Controls * Trust in Senior Management	.398	.007	56.719	1	4877	.00

Table 20

Trust in Leadership Correlated with Turnover Intentions by Formal Controls

Formal Controls	Direct Manager				Senior Management			
	N	r	Upper	Lower	N	r	Upper	Lower
0 ^a	799	.68	.64	.72	801	.59	.54	.63
1 ^b	3,264	.63	.61	.65	3,274	.55	.53	.57
2 ^c	818	.49	.44	.54	819	.44	.38	.49

Note. Upper and lower 95% confidence intervals were computed using Fisher's r-to-z transformation.

^a Neither a union member nor code of conduct in place.

^b Either a union member or code of conduct in place.

^c Both a union member and code of conduct in place.

Discussion

Trust is an important mechanism in social relationships. It allows us to move in a world of uncertainty and interact largely successfully with relative strangers every day.

Trust can substitute for costly and sometimes impractical formal controls. If laws are the bricks of our society, then trust is the mortar filling the cracks between them.

Theoretically, trust is an important tool for leaders, especially during times of turmoil and organizational change, which can threaten the security of employees and lead to voluntary turnover.

In my dissertation, I set out to test several hypotheses about trust in leadership, examining antecedents, moderators, and outcomes. This research will serve to buttress existing knowledge and theory about trust in leadership, as well as offer new information to verify assumptions and further develop trust theory. Also, my dissertation will provide helpful insights that leaders can apply in turbulent environments like organizational restructuring. Overall, I found answers to several outstanding questions, as well as support for some, though not all, of my hypotheses.

Similar to previous research, I found employees' trait trust is moderately, positively correlated with trust in leadership. Interestingly, the correlation between propensity to trust and trust in senior management is notably larger than the relationship between propensity to trust and trust in direct manager. The relative importance of propensity to trust is also greater to senior management. Both of these results suggest propensity to trust is more important to subordinates' trust in senior management. This may be due to the limited degree of interaction most employees have with senior management, yielding fewer opportunities for direct observation of behavior, and therefore increased reliance on trait trust.

While trait trust and perceptions of trustworthiness are accepted antecedents of trust, how these two determinants interact is less well understood. In trust theory, propensity to trust has been thought of as a direct determinant of trust itself, and as an indirect determinant through perceptions of trustworthiness. The distinction is one of generally trusting others versus generally perceiving others to be trustworthy. My research suggests that while propensity to trust is an important determinant of trust in leadership, it likely acts through the trustor's perceptions of the trustee's characteristics, including its benevolence, competence, and integrity.

Another question in the literature is which of the three trustworthiness components, benevolence, competence or integrity, is most important to trust in leadership. Previous research has tried to answer this question, but was troubled by correlated predictors (Colquitt, et al., 2007). In my dissertation, I avoided this trouble by using RWA. I found leader characteristics like integrity, honesty, word-deed congruence, and reliability are the most important determinant of trust in leadership. I observed this

pattern across both trust referents: direct manager and senior management. However, each of the three trustworthiness components was roughly as important as the others; none of the components were substantially less important. These findings contradict previous estimates, which indicate competence is the most important, followed by benevolence, and integrity is substantially less important (Colquitt, et al., 2007).

I also found trust in direct manager is correlated with trust in senior management, even after controlling for propensity to trust. This may be due to either a top-down or bottom-up process. In the top-down process, effective senior management sets the standard for direct manager performance, especially around integrity. In the bottom-up process, trust in direct manager may simply generalize up to senior management. Another possible explanation may be direct managers and senior management within the same organization undergo the same kind of leadership development, yielding similar behaviors and similar levels of trustworthiness.

Some have argued the role of different trustworthiness components may vary by contextual factors like relationship length and job complexity (Mayer, et al., 1995). Using organizational tenure as a proxy for relationship length, I tested the assertion that senior management integrity will be more important to trust in senior management early in the relationship, while leader benevolence will be more important later in the relationship. I did not find support for these hypotheses; tenure has no effect on the relationship between any of the trustworthiness components and trust in senior management.

Also, using job type as a proxy for job complexity, I tested the assertion that leader competence is more important to those in more complex jobs. I did not find support for this hypothesis when examining either trust in direct manager or trust in

senior management. Job complexity has no effect on the relationship between leader competence and trust in leadership. However, I did observe a small simple effect of job complexity on trust in leadership; those in high complexity jobs tend to trust their senior management slightly more, while those in low complexity jobs tend to trust their direct managers slightly less.

Similar to previous research, I found trust in direct managers and trust in senior management are both strongly correlated with employees' turnover intentions. Also similar to previous research, I found trust in senior management is more strongly correlated with turnover intentions than trust in direct manager, though the difference is not drastic. Further, I was able to test the relationship of trust in leadership with turnover intentions controlling for the effects of both job satisfaction and organizational commitment. In both cases, trust in direct manager and trust in senior management incrementally predict turnover intentions over job satisfaction and organizational commitment, though the effect sizes are small. This is not surprising given the correlations between trust in leadership, job satisfaction, and organizational commitment, which suggest these constructs are strongly related, but not isomorphic. Additionally, I was able to evaluate the relative importance of trust in leadership, job satisfaction, and organizational commitment to turnover intentions, and found trust in leadership emerges as an important predictor of turnover intentions, though in both cases organizational commitment is the most important, followed by job satisfaction, and then by trust in leadership. Overall, these results suggest trust in leadership is closely related to, but distinct from, other attitudinal constructs like job satisfaction and organizational commitment.

In addition to looking at the relationship between trust in leadership and turnover intentions, I was able to examine the moderating effects of two contextual factors on that relationship: risk and controls. First, I examined the contextual effect of the subjective and objective degree of risk in the situation. Contrary to my hypotheses, I found the subjective threat of layoffs does not affect the relationship between trust in leadership and turnover intentions. Similarly, I found the objective occurrence of organizational changes in the past 12 months does not affect the relationship between trust in senior management and turnover intentions. I found the objective occurrence of organizational changes affects the relationship between trust in direct manager and turnover intentions, though the effect size is small. However, the direction of the moderator effect is unclear. I hypothesized that trust in direct manager would be more strongly, positively related to turnover intentions in the context of more organizational changes. Yet, most confidence intervals overlap. Furthermore, when confidence intervals do not overlap, in some instances the stronger correlation is observed when the number of organizational change events is lower (i.e., 0 vs. 2, 1 vs. 2), and in other instances the stronger correlation is observed when the number of changes is higher (i.e., 5 vs. 2). Overall, these findings do not provide support for the idea that situational risk is a moderator of the relationship between trust and trusting behaviors.

Second, I examined the contextual effect of formal controls in the situation. As hypothesized, trust in leadership is less important to turnover intentions when formal controls are in place. This is true for both trust in direct manager and trust in senior management, though again these effects sizes are small. Specifically, if a code of conduct has been published and the employee is a union member, then the correlations between

trust in leadership and turnover intentions are notably weaker, though they are still strong. These findings support the idea formal controls act as a substitute for trust, and vice versa.

Theoretical Implications

Several theoretical implications can be gleaned from these results, some of which do and some do not support existing trust theory. First, results may help clarify the role propensity to trust plays in the trust nomological net. Trust researchers may do well to conceptualize propensity to trust as an indirect determinant of trust itself, which acts through perceptions of trustworthiness. Second, my results also offer an empirical test of several posited, yet untested, moderator variables in the trust nomological net. Despite compelling arguments, relationship length has no effect on the link between trustworthiness components and trust in leadership. Similarly, job complexity does not affect these relationships either, though it does have a small direct effect on trust in leadership. Further, despite being a central hypothesis, risk, whether subjective or objective, does not affect the relationship between trust in leadership and turnover intentions. However, the existence of formal controls does affect this relationship.

Practical Implications

Leaders from the front-lines to the upper echelons of their organizations can apply several of these findings. First, leaders can promote trust amongst their employees by simply being more trustworthiness – by being honest, being kind and sympathetic to subordinates, and developing leadership and job-specific skills. Second, trust in leadership is an important predictor of turnover intentions. By promoting trust amongst

their followers, leaders can better retain their talent. Third, instead of instituting costly legalistic remedies that might have adverse side-effects, leaders may instead strive to instill trust in their followers.

Limitations and Future Research

One limitation of this research is its lack of specificity. Though trust is thought to be situation-specific, I examined more generalized questions about the relationship between trust in leadership and turnover intentions. Future research should strive to match trust in a specific referent with a specific trusting behavior. For example, perhaps an organization would like to promote the trusting behavior of subordinates reporting any safety violations or concerns to their direct manager. They might measure manager trustworthiness by employees' perceptions of the manager's knowledge of safety guidelines, concern for employees' safety, and beliefs about confidentiality assurances. Trust might be measured as the willingness to share information about violations despite the risk of retaliation.

Another limitation of this research is related to its opportunistic nature. I was limited to existing variable measures, because I capitalized on an existing data set. Particularly, my measure of trust is a single item. However, my measures of trustworthiness are similar to many measures in the literature (see Appendix B). Despite this, future research should examine these hypotheses and research questions with different measures of trust, especially measures of willingness to take risks.

Summary

Trust is an important mechanism in the relationship between employee and leader, and is related to many important organizational outcomes. The greater our understanding of trust, the greater our ability to influence employee relations in the workplace. An individual's propensity to trust seems to affect trust in leadership through perceptions of leader trustworthiness. Leaders can inspire trust by being capable, kind, and honest. Leader integrity is the most important direct determinant of trust in leadership. Relationship length and job complexity have no bearing on the importance of the direct determinants of trust in leadership. A manager may use trust to influence his/her staff, who are more willing to assume risk on their manager's behalf. Trust may act as a substitute for costly and rigid formal control mechanisms, like legal contracts. Despite theoretical arguments, situational risk in the form of organizational change, whether perceived or actual, does not magnify the importance of trust in leadership to turnover intentions. Still, trust in leadership is important to predicting turnover intentions, even beyond job satisfaction and organizational commitment.

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Appendix A

Distrust or Low Trust

While most researchers - whether explicitly or implicitly - consider distrust to be simply the lack of trust or the low end of the trust dimension, some have argued distrust is an independent dimension from trust (Lewicki, McAllister, & Bies, 1998; Sitkin & Roth, 1993). To empirically test the dimensionality of trust/distrust is beyond the limits of my data and the purview of my dissertation; yet, I think it is necessary to pick a side in this matter, if only to situate distrust into the model of organizational trust in general I have presented herein.

Sitkin and Roth (1993) argued trust is situation-specific, determined by trustor perceptions of trustee competence; distrust is more general, determined by trustor perceptions of value incongruence, which lead to distrust via different-from-me evaluations. I think distrust as they have defined it is not represented in the theoretical trust model I have presented, but if it was it would be listed as a determinant of trust under characteristics of the trustee as “similarity to trustor,” and would potentially include a number of different characteristics (e.g., values, gender, race).

Lewicki and colleagues (1998) argued trust and distrust may exist simultaneously; trust is “confident positive expectations regarding another's conduct,” whereas distrust is “confident negative expectations regarding another's conduct” (p. 439). The reason trust and distrust can exist simultaneously, they argued, is the independence of positive and negative affect (see Watson, Clark, & Tellegen, 1988). If positive and negative affect can exist at the same time, then so can trust and distrust. I

tend to agree, and I think this conceptualization is not at odds with the model I have presented. Lewicki and colleagues explained: relationships are multi-faceted and complex; they vary in bandwidth, or the breadth of situations across which a pair (or triad, etc.) interact. Therefore, it is possible to trust a trustee in one situation, and distrust it in another. Again, I think this is a reasonable idea not incompatible with the model I have presented; the situation-specific nature of the trust definition presented herein prescribes this phenomenon, or at least does not proscribe it (cf. Schoorman, Mayer, & Davis, 2007).

In sum, while the dimensionality of trust/distrust is still a question open for debate, I chose to let sleeping dogs lie. At the very least, the model of organizational trust presented herein allows for the possibility of trust and distrust to exist simultaneously and/or could conceivably be expanded to include key variables in the trust-dimensionality discourse. Therefore, for the sake of tired dogs, in my dissertation I will assume trust is one-dimensional and distrust is simply low trust as I have previously defined it herein.

Appendix B

Comparison of Current Survey Items to Other Trustworthiness Measures

Determinant	Source	Item Content/Coding Instructions
Benevolence	Colquitt, Scott, & LePine, 2007, p. 913	“the extent to which the trustee is believed to want to do good to the trustor, aside from an egocentric profit motive” (Mayer et al., 1995, p. 718).
Benevolence	Dirks & Ferrin, 2002, p. 628	This dimension reflects a belief or perception that one has a special or unique relationship with the referent. Typically, this idea is reflected in a perception that the referent will act in a manner that intends to do good with regard to the trustor, will make sacrifices for the trustor, and will demonstrate concern about the trustor’s welfare, particularly because of the unique relationship. Examples: “I feel a strong sense of loyalty to my leader”; “If I shared my problems with [my leader], I know he would respond constructively and caringly.”
Benevolence	Mayer & Davis (1999)	Top management is very concerned about my welfare.
Benevolence	Mayer & Davis (1999)	My needs and desires are very important to top management.
Benevolence	Mayer & Davis (1999)	Top management would not knowingly do anything to hurt me.
Benevolence	Mayer & Davis (1999)	Top management really looks out for what is important to me.
Benevolence	Mayer & Davis (1999)	Top management will go out of its way to help me.
Benevolence	McAllister (1995)	We have a sharing relationship. We can both freely share our ideas, feelings, and hopes.
Benevolence	McAllister (1995)	I can talk freely to this individual about difficulties I am having at work and know that (s)he will want to listen.
Benevolence	McAllister (1995)	We would both feel a sense of loss if one of us was transferred and we could no longer work together.
Benevolence	McAllister (1995)	If I shared my problems with this person, I know (s)he would respond constructively and caringly.
Benevolence	McAllister (1995)	I would have to say that we have both made considerable emotional investments in our working relationship.
Benevolence	Current Survey	My manager [Senior management] demonstrates I am important to the success of the company.

Determinant	Source	Item Content/Coding Instructions
Benevolence	Current Survey	My manager [Senior management at my company] really cares about my well-being.
Competence	Colquitt, Scott, & LePine, 2007, p. 913	“that group of skills, competencies, and characteristics that enable a party to have influence within some specific domain” (Mayer et al., 1995, p. 717)
Competence	Mayer & Davis (1999)	Top management is very capable of performing its job.
Competence	Mayer & Davis (1999)	Top management is known to be successful at the things it tries to do.
Competence	Mayer & Davis (1999)	Top management has much knowledge about the work that needs done.
Competence	Mayer & Davis (1999)	I feel very confident about top management's skills.
Competence	Mayer & Davis (1999)	Top management has specialized capabilities that can increase our performance.
Competence	Mayer & Davis (1999)	Top management is well qualified.
Competence	McAllister (1995)	This person approaches his/her job with professionalism and dedication.
Competence	McAllister (1995)	Given this person's track record, I see no reason to doubt his/her competence and preparation for the job.
Competence	McAllister (1995)	I can rely on this person not to make my job more difficult by careless work.
Competence	McAllister (1995)	If people knew more about this individual and his/her background, they would be more concerned and monitor his/her performance more closely. (R)
Competence	Current Survey	My manager [senior management] has the ability to deal with the challenges we face.
Competence	Current Survey	My manager [senior management] is knowledgeable about the work that needs done.
Integrity	Colquitt, Scott, & LePine, 2007, p. 913	“the perception that the trustee adheres to a set of principles that the trustor finds acceptable” (Mayer et al., 1995, p. 719).
Integrity	Dirks & Ferrin, 2002, p. 628	This dimension is typically reflected in a belief or expectation that the referent is reliable, has integrity, is predictable, will tell the truth, will act in a fair or just manner, and so forth. This dimension does not reflect that the trustor has a unique or special relationship with the referent, the referent would be expected to act in this fashion regardless of the identity of the trustor. Examples: “I believe management has high integrity”; “[My leader] is not always honest and truthful.”

Determinant	Source	Item Content/Coding Instructions
Integrity	Mayer & Davis (1999)	Top management has a strong sense of justice.
Integrity	Mayer & Davis (1999)	I never have to wonder whether top management will stick to its word.
Integrity	Mayer & Davis (1999)	Top management tries hard to be fair in dealings with others.
Integrity	Mayer & Davis (1999)	Top management's actions and behaviors are not very consistent. (R)
Integrity	Mayer & Davis (1999)	I like top management's values.
Integrity	Mayer & Davis (1999)	Sound principles seem to guide top management's behavior.
Integrity	Current Survey	When my manager [senior management] says something, I can believe it's true.
Integrity	Current Survey	My manager [Senior management at my company] keeps his/her [their] commitments.

Note. Items from the OTI (Cummings & Bromiley, 1996) are copyrighted by the authors, and therefore cannot be replicated here without permission. However, I did examine them and found item content from the OTI Dimension One (reliability, commitment, and promise-keeping) and Dimension Two (honesty, truthfulness, and fairness) overlapped with the integrity items from the current survey, and OTI Dimension Three (malevolence) overlapped with the benevolence items from the current survey (reverse scored, of course). I did not sort two items included by McAllister (1995) – “Most people, even those who aren't close friends of this individual, trust and respect him/her as a coworker.” and “Other work associates of mine who must interact with this individual consider him/her to be trustworthy.” – because they were more like direct measures of trust (Colquitt, et al., 2007) than measures of trustworthiness.