

January 2013

# The Effects of Trust on Organizational Citizenship Behaviors: A Meta-Analysis

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The Effects of Trust on Organizational Citizenship Behaviors:  
A Meta-Analysis

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Running head: TRUST & OCB

THE EFFECT OF TRUST ON  
ORGANIZATIONAL CITIZENSHIP BEHAVIORS:  
A META-ANALYSIS

By

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Submitted to the Faculty of the Graduate School of  
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in partial fulfillment of the requirements for the degree of  
MASTER OF SCIENCE  
May, 2013

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**ABSTRACT**

This meta-analysis examined the relationship between trust and organizational citizenship behaviors (OCB). Trust has been studied extensively in the literature, and three referents of trust have been identified: interpersonal, organizational, and overall. OCB have also been studied extensively from a wide variety of perspectives. Dirks and Ferrin (2002) meta-analyzed the relationship between these two variables, and they found significant relationships between 1) interpersonal trust and OCB and 2) organizational trust and OCB. The purpose of the present research was to update the literature on these relationships. Twenty-three studies were found that measured the relationship between at least one of the referents of trust and OCB that were published since Dirks and Ferrin or not included in their analyses. All of the correlations between the referents of trust and OCB were significant, and the strongest relationship was found between interpersonal trust and OCB. Although this research helps clarify the nature of the relationship between these constructs, it also points out areas for future research that are needed in this field.

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## CHAPTER I

### INTRODUCTION

Much of the research that has examined trust has focused on one of two referents: the interpersonal relationships between individuals or the perceptions of the organization as a whole (Brower, Lester, Korsgaard, & Dineen, 2009; Chiaburu & Lim, 2008; Colquit, Conlon, Wesson, Porter, & Ng 2001; Dirks & Ferrin, 2002; Singh & Srivastava, 2009; Tan & Tan, 2009; Yakovleva, Reilly, & Werko, 2010). Most research related to these referents of trust examine interpersonal trust and its effects on organization outcomes (Colquit, Conlon, Wesson, Porter, & Ng 2001; Dirks & Ferrin, 2001, 2002; Deluga, 1994, 1995; Ferrin, Dirks, & Shah, 2006; Gurbuz, 2009; Jones, James, & Bruni, 1975; Lester & Brower, 2003; Singh & Srivastava, 2009; Tan & Tan, 2009; Yakovleva, Reilly, & Werko, 2010). Specifically, researchers have looked at the mediating role interpersonal trust plays between workers and their job-related outcomes such as job performance, organizational citizenship behaviors (OCB), and level of satisfaction (Colquit, Conlon, Wesson, Porter, & Ng 2001; Dirks & Ferrin, 2002; Singh & Srivastava, 2009). In contrast, organizational trust has been found to be correlated with outcomes such as commitment to the organization, resource consumption, intention to quit, and extra-role performance (Altuntas & Baykal, 2010; Cummings & Bromiley, 1995; Mayer, Davis, & Schoorman, 1995; Settoon, Bennet, & Liden, 1996). However, little research has attempted to examine the relationships between the different referents of trust and OCB in a comprehensive manner.

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The aim of the present research is to assess the relationship between referents of trust and OCB. Specifically, this meta-analysis will attempt to verify if a relationship exists between the different referents of trust and OCB, so as to provide more recent findings on the influence trust has on OCB occurrences. In addition, due to the variety of different definitions and theoretical applications of trust, this research will attempt to provide a more comprehensive understanding of its effect on OCB.

### **Overview and History of Trust Research**

Over the past few decades, the concept of trust between leaders and workers has received considerable attention in different fields of applied psychology. It was first introduced in the late 1940's to study the effects of trust within the labor field, specifically between managers and union workers (Wilson & Sichelsteil, 1949).

The concept of trust took hold further in the 1960's when researchers began to consider the importance of many different dimensions of the superordinate-subordinate relationship (Real, 1962). Laboratory experimenters began to research how these relationships could influence training and development programs and strengthen interpersonal and group functions within an organization (Zand, Steele, & Zalkind, 1969). The effects of training programs on trust between superordinates and subordinates lead researchers to find that the level of trust the subordinate held towards his superordinate directly influenced how much information was communicated in regard to workplace actions (e.g., workplace problems, updates, concerns) (Real, 1962; Maier, Hoffman & Read, 1963).

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The 1970's brought a focus on organization development. Researchers focused on promoting a dynamic environment for employees, which was believed to promote creativity and communication in employees (Kegan & Rubenstein, 1973). Research also indicated that this improved communication yielded positive outcomes such as awareness of organizational goals, resources, and constraints (Kegan 1971; Kegan & Rubenstein, 1973). Given the crucial role trust plays in communication, trust became a topic that was more widely studied.

The 1970's-1980's began the era in which trust was examined in many different directions. Research examined how trust was related to supervisor characteristics (Jones, et al., 1975), leadership behaviors (Jones, et al., 1975), culture of the organization (such as individualistic and collectivistic) (Lind & Tyler, 1988), and leader-member exchange (Cunninghan & MacGregor 2000). During this stage of trust research, researchers began to view trust as an indispensable part of social relationships (Lewis & Weigert, 1985). This stage of research also focused on the different effects subordinate trust had on manager and leader behaviors, and it explored the role of trust as an antecedent or consequences of those behaviors.

With the arrival of the 1990's researchers began to focus on *defining* the concept of trust. This proved to be difficult as every author seemed to conceptualize and use trust in their own manner, creating a hazy and unclear topic (Dirks & Ferrin, 2001; Hosmer, 1995; Mayer, et al., 1995; McAllister 1995). Hosmer (1995) created a comprehensive definition of trust by analyzing other researchers definitions of trust (Barber, 1983; Butler, 1991; Butler & Cantrell; Zucker 1986 Meeker, 1983; Rempel & Holmes 1986; Ring and Van de Ven 1992; Zucker 1986) and creating a statement that included both the

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theoretical and philosophical applications of trust. Hosmer (1995) focused on four different aspects of trust: individual actions, interpersonal relationships, economic transactions, and social structures. This led to trust being defined as “a perceived assumption of an acknowledged or accepted duty to protect the rights and interests of others” (Hosmer, 1995).

In the mid-to-late 1990's trust began to be examined as an antecedent to perceived level of risks in organizational decisions. Specifically, authors recognized the importance trust played in understanding risk taking (Coleman, 1990; Good, 1988; March & Shapira, 1987). Mayer et al. (1995) found that trust will lead to risk taking in an interpersonal relationship. The amount of risk an employee takes in an interpersonal exchange was related to the amount of trust they feel towards that individual (Mayer et al., 1995). For example, a supervisor may take a risk by assigning a subordinate to handle a sensitive document rather than doing it themselves. In this instance, the supervisor is at risk if the employee mishandles the document. The results of Mayer et al., (1995) study helped further explicate the role trust plays as an antecedent of organizational outcomes.

The 1990's also brought with it the first attempt to create an integrative model of trust. Mayer et al. (1995) model bridged the gap between risk and trust literature, incorporating how trustworthiness, trust, and risk all related to overall organizational outcomes. This model highlighted the fact that trust was a concept that was often ignored when looking at organizational outcomes and effectiveness. The model stated that the trustor's and trustee's perception, the risk of the decision, and the individual's personality traits all influence organizational outcomes. Specifically, Mayer et al.'s., (1995) model indicates that the perceived risk of a situation, both the trustor's and trustee's personality

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traits, along with how much an individual trusts those around him or her, influences the likelihood that a risk-taking behavior will occur. By incorporating personality traits and perceptions of risk into organizational outcomes, Mayer et al. (1995) brought attention to the idea that trust evolves between individuals differently and further research should analyze how these traits and perceptions affect the outcomes of the relationship.

Following the inclusion of the relationship between risk taking and interpersonal trust, research began to include this evolution of trust in the organizational sector. Jones and George (1998) posited that when employees trust in the organization a number of positive outcomes occur: free exchange of information, high involvement, help-seeking behavior, high confidence in others, broad role definitions, and communal relationships. This research emphasized the *development* of trust as a function of the organization's ability to create an environment that will foster positive trust growth (Jones & George, 1998). This research proposed that the environment of the organization—manager to subordinate cooperation, teamwork, emphasis on positive attitudes towards one another, and open communication—plays a role in achieving unconditional trust (Fiol, 1991; Jones, 1983; Jones & George, 1998). The authors make note that this unconditional trust does not come without cost, as it takes time, resources, and effort to take down the barriers that exist among organizational employees and managers.

In the late 1990's, Kramer (1999) took a social systems approach to trust by looking at the barriers to interpersonal trust and the benefits that exist after those barriers have been taken down. These barriers exist because trust is an uncomfortable position of vulnerability. If trust is not approached with the correct amount of respect, distrust can form, negating the opportunities for positive organizational outcomes (Kramer, 1999). If

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an organization can appropriately build trust among workers, three benefits can occur: (1) lower transaction costs between individuals, (2) sociability between organizational members, (3) increased rates of appropriate superordinate to subordinate relationships (Kramer, 1999).

Trust has rightly become a more central concept in contemporary organizational psychology. Recent research has sharpened our view of the complexities of trust and shed light on the relative benefits trust offers organizations. With each passing decade, trust gained a stronger foothold in being a necessity of organizational and social science study.

### **Referents of Trust**

Although there is a fundamental core, the measurement of trust has varied because there are different referents of trust (Rousseau, Sitkin, Burt & Camerer 1998). The three dimensions of trust that will be used within this analysis are interpersonal trust, organizational trust, and overall trust. Interpersonal trust focuses on the individual's perceptions of trust that exist towards leaders, negotiators, coworkers, or subordinates (Caldwell & Hansen, 2010; Fulmer & Gelfand, 2012; Salancik & Pfeffer, 1978). Organizational trust involves the individual's level of trust with the organization itself (Altuntas & Baykal, 2010). Overall trust encompasses any measurement that includes studies assessing more than one definition of trust (Dirks & Ferrin, 2002). These different referents of trust will help provide a more thorough understanding of how individual's behaviors change as their affiliations with both their peers and the organization itself shifts over time.

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### *Interpersonal Trust*

Interpersonal trust is defined as an individual's beliefs about the dependability and integrity of a peer or supervisor (Ferrin, et al., 2006; Mayer, et al., 1995). These beliefs are related to attributions made between individual dyads within the workplace (Caldwell & Hansen, 2010; Salancik & Pfeffer, 1978). Specifically, these attributions are usually measured by looking at the perceptions of both individuals within the dyad regarding ability, benevolence, and integrity (Colquitt, LePine, Piccolo, Zapata, & Rich, 2007). Researchers have found perceptions of ability are important in displaying competency and skill to those around the individual (Colquitt, et al., 2007; Dirks & Ferrin, 2001). Perceptions of benevolence are also a key predictor of interpersonal trust, in that sympathy and cooperation with others tends to increase feelings of trust between individuals (Colquitt et al., 2007). Integrity, which refers to word-deed consistency, including keeping promises and enacting espoused values, has been shown to be positively correlated with trust in another individual (Colquitt et al., 2007; Palanski & Yammarino, 2009).

Research on interpersonal trust has shown a number of effects on organizational group outcomes. Higher rates of interpersonal trust yielded stronger group processing (Dirks, 1999), higher rates of performance (Dirks & Ferrin, 2001), better motivation (Dirks, 1999), improved personal relationships (Lewicki & Bunker, 1996), and positive negotiations (Butler, 1995). These studies show the relationship between trust and dyadic processes, and its effects on group outcomes within an organization. A meta-analysis conducted by Dirks (1999) found that interpersonal trust was related to a variety of dependent variables within the organizational context. These variables include

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organizational citizenship behaviors (McAllister, 1995; Podsakoff, Mackenzie, Moorman & Fetter, 1990; Robinson, 1996), effort (Williams & Karau, 1991), work conflict (Ferrin & Shah, 1997), and communication (Mellinger, 1959). Thus, studies indicate that as trust increases so does the efficiency of the dyad.

### *Organizational Trust*

Organizational trust is defined as expectations concerning organization policies and practices affecting employees (McAllister & Bies, 1998). Janowicz-Panjaitan and Krishnan (2009) examined organizational trust as a form of attribution theory, such that individuals will make sense of their surroundings whether positive or negative based on the relationship they have with the organization. Thus, employees with high levels of organizational trust are more comfortable taking risks, displaying ideas, and performing behaviors for the organization (Yilmaz & Altinkurt, 2011). From this perspective, employees that display high levels of organization trust can be expected to display behaviors that go above and beyond that which is expected of them (Yitmaz & Altinkurt, 2011). That being said, it is imperative to understand that the inverse can occur, such that if an individual feels a lack of trust with the organization, they show negative perceptions and lower work satisfaction (Fulmer & Gelfand, 2012).

Organizational trust has been found to correlate with variables such as organizational commitment, individual performance, and organizational effectiveness (Tan & Lim, 2008). Of all the dimensions of trust, trust in organization has been found to be the best predictor of organizational commitment (Tan & Lim, 2009; Tan & Tan, 2000). Organizational trust also facilitated openness in communication and information sharing, which in turn yielded better rates of performance (Benton, Gelber, Kelley, &

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Liebling, 1969). Therefore, trust in organization works through the mechanisms of commitment to promote communication and yields better performance outcomes (Tan & Lim, 2009).

### *Overall Trust*

The final dimension of trust is a comprehensive assessment of trust. Dirks and Ferrin (2002) created this construct as a means to evaluate potential distinctions between definitions of trust (e.g., interpersonal, organizational) by capturing existing differences between definitions in a more comprehensive manner. This measure also included any study that used only the term “trust” as a construct. Conceptually, this variable is designed to incorporate any study that looked at both interpersonal and organizational trust, so as to avoid letting cross contamination occur from some studies looking at multiple referents of trust.

## **Organizational Citizenship Behavior**

### *History of OCB Research*

In the mid 1960's, Katz (1964) identified the three basic types of behavior that are essential for an organization to function: (1) people must be induced to enter and remain within the system, (2) they must carry out specific role requirements in a dependable time frame, and (3) there must be innovative and spontaneous activity that goes beyond designated role prescriptions. This third basic behavior specifically called for daily acts of cooperation, helpfulness, suggestions, gestures of goodwill, and altruism (Katz, 1964). Specifically, organizations promote these spontaneous acts to maintain a form of internal equilibrium that includes accommodating to the work needs of others (Katz, 1964).

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In the early 1980's, Bateman and Organ (1983) coined the term organizational citizenship behaviors (OCB) for Katz's (1964) extra-role behavior category. They formally defined the concept as "OCB represents an individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and in the aggregate promotes the efficient and effective function of the organization" (Organ, 1988). This definition was constructed on the premise that organizations can improve their efficiency and effectiveness by contributing to innovativeness, adaptability, and resource allocation of their employees (Organ, 1988).

As the concept of citizenship behaviors developed, so did the sophistication of the construct. Empirical literature suggested that OCB be broken into two broad categories: (1) organizational OCB (OCB-O) that benefit the organization in general (e.g., follow informal rules, maintain order, promote the organization) and (2) individual OCB (OCB-I) that benefit the specific individuals and indirectly contribute to the organization (e.g., help others who miss shifts, take personal interest in other employees) (Williams & Anderson, 1991). Previous research has explained that OCB-I is related to altruism, while OCB-O is considered generalized compliance (Organ & Konovsky, 1989; Smith, Organ, & Near, 1983). These two unique labels are used to avoid confusion between the OCB measures and provide a distinction between the organizational and individual outcomes of citizenship behaviors (Williams & Anderson, 1991).

The next stage of development for OCB involved the creation of factors that made up the measure of organizational citizenship behaviors beyond just OCB-I and OCB-O. Smith, Organ, and Near (1983) developed an Organizational Citizenship Behavior Scale, which was composed of five dimensions of extra-role behavior: altruism, courtesy,

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sportsmanship, conscientiousness, and civic virtue. Altruism has been identified as voluntarily assisting others or preventing the occurrence of work-related problems (Organ, 1988). Courtesy is the extent to which a coworker helps others by taking steps to prevent the creation of a problem (Mackenzie, Podsakoff, & Fetter, 1993; Organ, 1988). Sportsmanship is defined as a willingness to tolerate the inconveniences of work without complaining (Organ, 1990). Conscientiousness is explained as voluntary acts of creativity and innovation that assist to improve one's task or the overall organizational performance (Organ, 1988). Civic virtue is defined as a person's recognition of being a part of a larger whole (Organ, 1988).

Organ (1990) took the process of identifying the construct of citizenship behaviors a step further by creating a new dimension named helping behavior, which would encompass courtesy and altruism as one. A large focus was placed on helping behaviors because they were found to be positively related to work group or organizational effectiveness (Borman & Motowidlo, 1993; Organ, 1988; Podsakoff & MacKenzie, 1994). Organ (1990) described this new component, along with civic virtue, sportsmanship, and conscientiousness as the oil of the social machinery of the organization. This new conceptual development of OCB was rooted in the idea that OCB may increase organizational performance because they reduce the amount of resources needed for maintaining workplace functions, free up these resources for more productive purposes, and make the organization more attractive to new employees (Borman & Motowidlo, 1993; Organ, 1988, 1990). However, with the separation of OCB into both individual and organizational levels, the roles that encompassed citizenship behaviors became a topic of some debate.

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Organ's (1988) seminal research on OCB and the idea that they are extra-role behaviors brought forth criticism suggesting that OCB included in-role behaviors as well. Organ (1997) redefined the concept of OCB as not being a reference of extra-role behavior, but also measuring certain aspects of in-role performance. For example, some of the five OCB dimensions in the reconstruction of the definition look to be mandatory, such as the definition of conscientiousness (e.g. be punctual every day, do not take unnecessary days of work) (Vey & Campbell, 2004). Ironically, altruism and civic virtue were the only scales that measured extra-role performance, leaving the majority of OCB behaviors to be required or mandatory within the job description (Vey & Campbell, 2004). With that in mind, the question of *what* motivates individuals to perform those behaviors is still under scrutiny. Thus, the next step in understanding OCB involves the antecedents for performing such behaviors regardless of the in-role vs. extra-role perceptions. Unfortunately, research is limited on why employees choose to conduct these behaviors (Vey & Campbell, 2004).

Citizenship researchers argue that OCB play a role in two key issues: (1) the effects OCB have on evaluations of performance and judgment in pay raises, promotions, and (2) the effects of OCB on organizational performance and success (Podsakoff, MacKenzie, Paine & Bachrach, 2000). The research on these two key issues found that OCB had a positive impact on personnel decisions made by managers, as well as positive influences on managerial judgment and decision making (Podsakoff, et al., 2000). For example, higher rates of OCB may contribute to organizational success by enhancing interpersonal relationships, freeing up resources for more productive purposes, reducing the need for resources to be purely used for maintenance functions, helping to coordinate

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activities within and across groups, strengthening the organization's attractiveness to potential employees, and enabling the organization to adapt more effectively to changes that occur (Bettenhausen, 1991; Mackenzie et al., 1991; Organ, 1988, 1990; Podsakoff & MacKenzie, 1994).

As job satisfaction has been found to be one of the strongest predictors of OCB, it has received a considerable amount of research (Bateman, & Organ, 1983; Smith et al., 1983). Job satisfaction is conceptualized as a job attitude ranging from low to high, indicating a positive or negative attitude toward the given job (Ziegler, Schlett, Casel, & Diehl, 2012). Specifically, previous literature has shown a positive moderate relationship between job satisfaction and OCB (Organ & Ryan, 1995). Thus, when an employee feels satisfied with his or her job, he or she will reciprocate with positive behaviors such as OCB to benefit the organization (Organ & Ryan, 1995). These results were further demonstrated through research on cognitive work attitudes, such that as an individual displays higher rates of cognitive satisfaction with their organization, OCB will increase as well (Chiu & Chen, 2005).

These work attitudes are also influenced by an individual's disposition, which is mediated through job satisfaction as well (Chiu & Chen, 2005). Disposition has also received much attention in relation to citizenship research, as personality traits have been shown to influence the prevalence of OCB behaviors. Specifically, conscientiousness and agreeableness have been found as the strongest predictors of OCB behaviors (Costa & McCrae, 1992). For instance, agreeable individuals tend to exhibit more altruistic and cooperative behaviors, with the idea that others around them will engage in them as well (Barrick, Stewart, & Piotrowski, 2002; Costa & McCrae, 1992). Individuals high in

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conscientiousness tend to elicit strong organizational skills, diligence on tasks, and are very achievement oriented (Costa & McCrae, 1992). Individuals that are high in both agreeableness and conscientiousness have been found to be more likely to engage in citizenship behaviors to gain a personal sense of achievement (Organ & Ryan, 1995). Agreeable and conscientious employees are said to be predisposed to engage in activities that result in some level of increased job satisfaction (Ilies, Fulmer, Spitzmuller, & Johnson, 2009). Thus, those who experience positive work-outcomes such as job satisfaction are more likely to reciprocate these behaviors in a social exchange format (Bateman & Organ, 1983).

### **Research on the Relationship between Trust and OCB**

#### ***Meta-Analyses of Trust and OCB***

To date, Dirks and Ferrin (2002) have completed the most comprehensive assessment of interpersonal trusts effects on work behaviors. They considered many antecedents and consequences that are related to interpersonal trust. The findings of this meta-analysis not only deciphered the actions and practices a leader could engage in to increase the trust of subordinates, but also predicted the likelihood of behavioral, attitudinal, and performance outcomes (Dirks & Ferrin, 2002). The main finding of the meta-analysis was that leadership styles influenced the likelihood of increasing trust in leadership, leading to a number of positive behavioral outcomes (Dirks & Ferrin, 2002). Specifically, they found that direct leader behaviors (e.g. supervisor behaviors) were related to increases in OCB altruism, job satisfaction, and organizational commitment over that of organizational leadership behaviors (e.g. senior executive behaviors) (Dirks & Ferrin, 2002).

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Dirks and Ferrin (2002) focused their meta-analysis on the effects of trust between leaders and subordinates and OCB. Specifically, the results indicated that trust in one's manager is positively related to OCB, as well as attitudes and personal evaluations. However, they did not look at OCB prevalence in regards to individuals trusting the organization or their peers. This lack of focus on other referents of trust, such as organizational and interpersonal peer trust leaves several questions unanswered. The current meta-analysis incorporates different referents of trust and OCB to determine the relationship trust has on these outcomes. This study also looks to further the literature on trust and OCB, as it has been over a decade since Dirks and Ferrin's (2002) research was conducted.

Fulmer and Gelfand (2012) conducted a meta-analysis of the outcomes of trust on different levels of the organization: individual, group, and organizational. The results of this meta-analysis conclude that trust does have implications across all levels of an organization, relating to performance, teamwork, leadership success, and organizational and interpersonal performance (Dirks, 2000; Dirks & Ferrin, 2002; Collins & Smith, 2006; Gulati & Nickerson, 2008). However, there is little evidence connecting the relationship between multiple referents of trust and organizational citizenship outcomes. Specifically, OCB were not measured throughout the team and individual level. Thus, leaving a gap of how trust relates to OCB at both team and individual levels. The findings of this study further the original work of Dirks and Ferrin, (2002; 2006) but lack analysis of the relationship between the different referents of trust and OCB.

## CHAPTER II

### RESEARCH HYPOTHESES

This meta-analysis attempts to answer three research hypotheses related to different referents of trust and OCB literature: (1) Interpersonal trust will provide the strongest positive relationship with organizational citizenship behaviors than organization and overall trust, (2) organizational trust will have a positive relationship with organizational citizenship behaviors and, (3) overall trust will have a positive relationship with organizational citizenship behaviors.

## CHAPTER III

### METHOD

#### Literature Search

This meta-analysis included 23 samples, included a total of 8,589 participants. There were 22 total studies assessing trust as the predictor variable, assessing it as interpersonal, organizational trust, or overall trust. Study information such as authors, years, sample size, independent variables, and dependent variables can be found in Table 1 (Appendix B).

Two approaches were utilized to collect data for the meta-analysis. First, a thorough Internet based search was completed using four different databases, including PsychInfo, JSTOR, Business Source Premiere and Google Scholar. PsychInfo is a database of abstracts and journal articles of psychological studies. PsychInfo yielded the most results pertaining to this meta-analysis and accounted for the majority of the studies included in the final sample. JSTOR is the second database utilized to search for articles associated with the variables under scrutiny. However, it was mainly used as a means to verify that no other articles existed beyond PsychInfo, as it did not provide any new articles for the final sample. Business Source Premier is considered a full-text business publication database and provided the second largest amount of studies. Google Scholar was another database assessed, and provided the same outcome as JSTOR. Each database was searched using the following keywords to ensure that all relevant articles

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were found: *trust, overall trust, organizational trust, individual trust, interpersonal trust, dyadic trust, cognitive trust, affective trust, organizational citizenship behaviors, OCB, extra-role behaviors, and citizenship behaviors*. These keywords were used in each database to find the studies that reported the variables of interest. The final list was culled to remove any duplication of studies that may have occurred.

The second approach to collecting relevant studies was back-searching the articles that were located by searching the databases. Back searching allows for a more thorough approach to gathering research that may have been missed due to databases lacking certain studies. While back searching, if a study was associated with *trust* or *organizational citizenship behaviors*, it was searched and assessed on a case-by-case basis.

Once all relevant studies were found through database and back searching, the last step was ensuring that no duplicate studies existed within the study materials. Within the list of articles three were found to have been a dissertation, thesis, or conference article that were later published as a separate entity. For the sake of duplicating results, the criteria set forth for this analysis resulted in giving published articles higher priority than dissertations and theses.

### **Criteria for Inclusion**

To be included in this meta-analysis, each article had to meet four criteria. First, each article needed to not have been analyzed by the original study by Dirks and Ferrin (2002), due to this meta-analysis looking to expand on their original work by adding organizational trust. It should also be stated that the criteria includes studies that were

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published after the original date of Dirks and Ferrin (2002) meta-analysis as well as ones that were not included in their reference list.

Second, the articles had to report correlation coefficients or other statistic that can be converted into a correlation coefficient, including beta-weights, t-values, or f-values. Upon assessing each article, only articles that reported the correct statistics were used, such that if the study did not report any findings or reported statistics that could not be meta-analyzed it was omitted.

Third, the article had to include the listed referents of trust, whether it is interpersonal, organizational, or overall trust. Specifically, the referent of trust was determined using the definitions listed previously in this study, with author discretion in cases that did not clearly state the referent. Thus, some studies would define trust in their own manner, leading to the authors conducting a thorough analysis of *how* trust was actually being investigated. Each variation of trust that was included is directly related to one of the three keywords, or it was omitted.

Fourth, the article had to include organizational citizenship behaviors as the dependent variable, whether it be OCB in general, OCB-I, or OCB-O. The same methodology was used for OCB as was used for the trust construct.

### **Definitions of Trust and OCB**

#### ***Trust***

Trust was examined through (a) interpersonal trust, (b) organizational trust (c) and overall trust. Interpersonal trust was measured through any relationship between individuals, including dyadic peer-to-peer, dyadic subordinate to superordinate, as well as

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trust in leader. Organizational trust was measured in relation to the overall level of trust an individual feels towards his or her organization's decisions, positions, and outcomes. Overall trust was defined by any article that included multiple referents of trust, such that it encompasses both referents of trust.

### *Organizational Citizenship Behaviors*

Organizational citizenship behaviors were measured in three different ways: (a) overall (OCB) (b) organizationally directed (OCB-O), (c) Individually directed (OCB-I). In addition, OCB could also be broken down into its component parts including (a) altruism, (b) conscientiousness, (c) sportsmanship, (d) courtesy, (e) civic virtue. These five variables were averaged to make an overall OCB variable when used within an article that did not report OCB overall. This allowed for inclusion of the one article that broke OCB into their component parts.

### **Coding**

#### *Effect Sizes*

Studies were reported using Pearson's correlation coefficient,  $r$ . For each relationship that was studied, only one effect size was included from each sample as to preserve the independence of each sample. One study reported multiple samples, which were included separately in the analysis (Pillai, Schriesheim, & Williams, 1999).

#### *Procedures*

A coding manual was constructed to assist in the coding process. This document was built to include all relevant variables and moderators that could be found throughout the studies. Specifically, items were coded in respect to the referent of trust and OCB,

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along with any patterns found throughout the studies such as location, population, recruitment styles, and specific scale measures. Once this document was created it was pilot tested on five articles to ensure that it included all variables of interest. Multiple variations of the document were compiled to add any new variables that may be of interest, and remove any variables that are not related to the study.

The main variables of interest that were included in the final draft of the coding manual were the different referents of trust (e.g. interpersonal, organizational, overall) and OCB. These variables were coded by their correlation coefficients. The coding manual is provided in appendix section of this study (Appendix A).

When using the coding manual, the correct procedure requires the reader to critically evaluate each article for the necessary main variables (e.g. trust or OCB), as well as consider any pertinent variables listed in the coding manual. This can include reading the method section to find the exact sample size, recruitment technique, and location of the study. These variables were later used to test if the primary relationship was influenced by moderator variables.

### ***Meta-Analytical Calculations***

This study followed Cooper's (2010) guidelines for meta-analysis. The meta-analytical results were found by first converting all correlation coefficients to  $z$  scores, then averages were found in terms of the  $z$  scores, then each averaged- $z$  score was converted back to  $r$ . This resulted in overall mean weighted effect sizes for the trust variable's relationship on OCB. In addition, moderator analyses were conducted to examine whether referents of trust and OCB accounted for the primary relationship.

## CHAPTER IV

### RESULTS

After applying the inclusion criteria, the analysis included a total of 23 studies with a sample size of 8,589 individuals. Correlations, confidence intervals, and sample size are listed in Table 1. Studies that were included in the analysis are marked with an asterisk in the References section.

#### **Hypothesis 1**

Interpersonal trust and OCB were significantly correlated ( $r = .16, p < .05$ ). The 95% confidence interval for interpersonal trust on OCB ranged from .11 to .19. Thus, the hypothesis that interpersonal trust will provide the strongest significant relationship with OCB was confirmed.

#### **Hypothesis 2**

Organizational trust and OCB were significantly correlated ( $r = .11, p < .05$ ). The 95% confidence interval for organizational trust on OCB ranged from .07 to .15, thus, indicating that the hypothesis that organizational trust will have a significant relationship with OCB was confirmed.

#### **Hypothesis 3**

Overall trust and OCB were significantly correlated ( $r = .06, p < .05$ ). The 95% confidence interval for overall trust on OCB ranged from .00 to .12, thus confirming the

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hypothesis that overall trust will provide a significant relationship with OCB was confirmed.

Table 2

### Correlations Between OCB and Referents of Trust

Variables	<i>K</i>	<i>N</i>	<i>r</i>	95% <i>CI</i>
1. Interpersonal Trust & OCB	16	4799	.16	[.11, .19]
2. Organizational Trust & OCB	2	2652	.11	[.07, .15]
3. Overall trust & OCB	4	1138	.06	[.00, .12]

*Note.* *r* = uncorrected meta-analytic correlation; CI = confidence interval; *k* = number of independent samples; *N* = sample size.

*Source(s):* All data used within this table are listed in the bibliography indicated by an asterisk.

### Moderator Analyses

Moderator analyses were conducted on five variables of interest gathered through the data collection to ensure that overall trust held the primary relationship with OCB.

These variables were population, location, OCB scales, and trust scales.

#### ***Population***

Population of participants included within the study was not a significant moderator of the relationship between overall trust and OCB. Specifically, there was not a significant difference in the relationship between overall trust and OCB when the sample was front line workers ( $r = .05$ ) or middle management ( $r = .09$ ).

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### *Location*

Location when included as a moderator variable indicated a significant difference in the relationship between overall trust and OCB. Specifically, there was a stronger relationship when studies were conducted in Europe ( $r = .34$ ) than in either Asia ( $r = .04$ ) or the United States ( $r = .06$ ).

### *Organizational Citizenship Behavior Scales*

The relationship between overall trust and OCB differed depending on which OCB scale was used. Podsakoff's (1990) OCB scale ( $r = .18$ ) had a larger relationship than those studies that used Organ's (1988) OCB scale ( $r = .07$ ), or Williams and Anderson's (1991) OCB scale ( $r = .04$ ).

### *Trust Scales*

The relationship between overall trust and OCB differed depending on which OCB scale was used. Gabarro and Athos's (1976) trust scale ( $r = .39$ ) provided a larger relationship than studies that used Marlow and Nyhen's (1992) ( $r = .26$ ) or Schoorman, Mayer, and Davis's (1996) ( $r = .14$ ).

## CHAPTER V

### DISCUSSION

#### **Summary**

This meta-analysis explored whether different referents of trust are correlated with OCB. The evidence from this study indicates that interpersonal trust does in fact correlate with OCB. The majority of the studies that were analyzed in this meta-analysis looked at interpersonal trust. However, both organizational trust and overall trust were significantly correlated with OCB, but neither was as strong as interpersonal trust. There is a general trend of positive OCB when individuals have higher rates of trust among coworkers and superordinates.

#### **Implications**

Trust has played an important role in the understanding of organizational outcomes such as leader effectiveness (Dirks & Ferrin, 2002), effort and performance (Aryee, Budhwar, & Chen, 2002), and citizenship behaviors (Mayer & Gavin, 2005). However, much of this research attempts to look at trust with an interpersonal referent of trust (e.g. Brower, Lester, Korsgaard, & Dineen 2009; Chiaburu & Lim, 2008; Deluga, 1994, 1995; Gurbuz, 2009; Konovosky & Pugh, 1994; Krosgaard, Brodt, & Whitener, 2002; Lau & Lam, 2008; Lester & Brower, 2003; MacKenzie, Podsakoff, & Rich, 2001; Narasimhan & Lawrence, 2012; Podsakoff, MacKenzie, & Bommer 1996; Singh & Srivastava, 2009; Yakovlvea, Reilly, & Werko, 2010; Yoon & Suh, 2003). The findings

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from the current study looked to include multiple different referents of trust and each referents relationship to OCB. The results of this study have yielded three unique implications from its findings. First, the study strengthens the empirical support for the relationship between trust and OCB by looking at how each referent of trust impacts OCB. Second, the findings of this study bring attention to the importance of organizational and overall trust on organizational outcomes. Third, the study offers an opportunity for both researchers and practitioners in the organizational context to know more about the relationship between trust and OCB.

This study was conducted in response to the original meta-analysis by Dirks and Ferrin (2002) and further strengthened the empirical findings on trust and OCB. The results of this study indicate that both interpersonal and organizational trust correlate with OCB. Specifically, the research indicated that interpersonal trust and organizational trust are both important in influencing the likelihood that OCB will occur in an organizational setting. It is worth noting that the when both referents of trust were combined, the relationship remained significant. Therefore, organizational leaders can approach influencing OCB through either interpersonal relationships or general perceptions of organizational trust.

The second implication of this research brings attention to findings of including both interpersonal and organizational trust measures when assessing their relationship to OCB. Specifically, the two meta-analyses that looked at trust as a predictor of OCB failed to consider how different referents of trust could influence the likelihood of OCB together (Dirks & Ferrin, 2002; Fulmer & Gelfand, 2012). Though interpersonal trust

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provided a stronger relationship to OCB, it is important to consider that organizational trust does have a significant influence on the likelihood OCB will occur.

The third implication of this research involves the insight the results provide on how the referents of trust influencing OCB. Specifically, these results relate to findings of previous trust studies, in that employees perceive, interpret, and evaluate various trusting relationships on more than just person-to-person interactions (Dirks & Ferrin, 2002; Fulmer & Gelfand, 2012; Singh & Srivastava, 2009). In respect to the findings of multiple referents of trust influencing the likelihood OCB will occur, it is important that organizations find ways to increase attitudes of trust on multiple levels. According to the results, this will help influence the likelihood that OCB will occur. Thus, these results provide further evidence that individual's referents of trust within an organization is related to the likelihood that they will exhibit OCB.

### **Limitations**

There are three main limitations of this study. First, the sample size within this study is limited, as it only includes studies that were published after the original meta-analysis by Dirks and Ferrin (2002), along with studies that were not included in their original analysis. Specifically, the majority of studies measured interpersonal trust, not measuring organizational trust or overall trust (Brower, Lester, Korsgaard, & Dineen 2009; Chiaburu & Lim, 2008; Deluga, 1994, 1995; Gurbuz, 2009; Konovosky & Pugh, 1994; Krosgaard, Brodt, & Whitener, 2002; Lau & Lam, 2008; Lester & Brower, 2003; MacKenzie, Podsakoff, & Rich, 2001; Narasimhan & Lawrence, 2012; Podsakoff, MacKenzie, & Bommer 1996; Singh & Srivastava, 2009; Yakovlvea, Reilly, & Werko, 2010; Yoon & Suh, 2003). Specifically, only two studies reported findings for

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organizational trust (Altunas & Baykal, 2010; Hansen, Dunford, Boss, Boss & Angermeier, 2011), and four reported findings for overall trust (Goodwin, Whittington, Murray & Nicholas, 2001; Pillai Schriesheim, & Williams, 1999; Tan & Tan, 2002). In regards to meta-analytical studies, caution must be exercised when drawing conclusions from the estimates of individual effect sizes where the number of studies and total number of participants are relatively small (Oswald & Johnson, 1998). Thus, the research that was accessible was mainly focusing on interpersonal trust, showing a gap in the literature.

A second limitation is the lack of longitudinal research on the trust and OCB. The studies included in this meta-analysis all measured trust and OCB at one point in time. Therefore, it is important to note that the meta-analyzed results do not account for multiple explanations for the correlations found. This is essentially the issue that meta-analytical studies are only able to limit the threats to internal validity as far as the studies have done themselves.

A third limitation of this research indicates that all studies included in the meta-analysis utilized correlation coefficients. Correlation coefficients do not provide any directionality towards the relationship. Since all the studies included in this meta-analysis included correlation coefficients, this study is not able to confirm or disconfirm causality, due to the potential of third party variables.

### **Future Research**

The purpose of this meta-analysis was to synthesize the findings of the different referents of trust and OCB. However, despite these findings, four suggestions were spelled out for future researchers looking to further the literature on trust and OCB. These

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four suggestions include controlling internal validity threats, considering the moderator variables, analyzing OCB into its component parts, and including multiple referents of trust in OCB studies.

The first suggestion for future research includes attempting to control the threats to internal validity through the use of experimental designs and longitudinal studies. Specifically, no study included in this meta-analysis attempted to look at the likelihood OCB would occur from referent of trust over a period of time. This indicates an inability to determine the direction of cause and effect in the relationship between referents of trust and OCB. Future research may wish to incorporate longitudinal research designs that attempt to provide interventions of trust generation and on its relationship to OCB.

The second suggestion indicates that future research may wish to consider the moderator variables listed in this meta-analysis when designing future studies. Specifically, the moderator analysis results indicate that the location of the study displayed higher rates of significance in Europe than in Asia and the United States. Thus, future researchers may wish to assess why these differences occurred between locations.

The type of scale used for both trust and OCB measures indicated disparities in the rates of significance when included as moderators as well. In relation to OCB measurements, Podsakoff's (1990) OCB scale indicated higher rates of significance than Organ's (1988) and Williams and Anderson's (1991) OCB scales. With regard to the trust scales, Gabarro and Athos's (1976) indicated higher rates of significance than Marlow and Nyhen's (1992) and Schoorman, Mayer, and Davis's (1996). This once again suggests that future researchers should investigate each scales items to establish the reason for some providing higher rates of significance than others.

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The third suggestion states that future studies should break OCB into their component parts instead of aggregating the findings into one result. Many studies did not choose to analyze OCB into either OCB-I or OCB-O scales to allow for more detailed assessment of the construct. It was expected that since this analysis was including studies that were recently published, most of the authors would utilize more comprehensive scales to assess OCB. It was also noted that most studies aggregated the five components of OCB (e.g. altruism, sportsmanship, courtesy, civic virtue, and conscientiousness) into a single OCB construct. Therefore, future researchers should consider measuring and reporting the five components of OCB when analyzing and interpreting their results.

The fourth suggestion involves considering that both interpersonal and organizational trust are significantly related to OCB. Organizations may be wise to utilize both interpersonal and organizational trust to produce more comprehensive results. Since most research looked to assess a specific referent of trust on consequent behaviors or outcomes, looking at both referents together may provide a unique component to the literature on trust.

## **CHAPTER VI**

### **CONCLUSION**

In attempting to summarize the literature on the relationship different referents of trust have with OCB, several contributions have been made to further the field through this research. First, this research attempted to extend previous meta-analytical findings by looking specifically at the different referents of trust on OCB. Second, implications of the relationship between referents of trust and OCB have been spelled out. Third, through the findings of this study, as well as the future suggestions provided, this study hopes to provide a foundation for future research on reference of trust on OCB. Third, a more thorough understanding of trust and OCB will ultimately assist both researchers and practitioners in utilizing trust in organizational settings.

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**APPENDIX A:**

Coding Manual



## TRUST & OCB

### Report information

3. \_\_\_ RIN (2-digit code from Access data base)
4. \_\_\_\_\_ First author Last name
5. \_\_\_\_\_ Second author last name
6. \_\_\_ Number of authors (1 to 9)
7. \_\_\_\_\_ Year of publication
8. \_\_\_ Type of publication  
1 = journal article, 2 = book chapter, 3 = dissertation, 4 = unpublished/other
9. \_\_\_ Location  
1 = US, 2 = Canada, 3 = Europe, 4 = Australia, 5 = Asia, 6 = else
10. \_\_\_ State (use 2-letter postal abbreviation; if not US, use XX)

### Study information

11. \_\_\_ Total number of studies reported
12. \_\_\_ Study number
13. \_\_\_ Population  
1 = undergrad students, 2 = grad students, 3 = front line, 4 = middle management, 5 = executives, 6 = other
14. \_\_\_\_\_ Total number of participants
15. \_\_\_ Type of participant reported  
1 = single participant, 2 = subordinate/supervisor dyad 3= peer to peer exchange, 4= other
16. \_\_\_ Average educational level of participants  
0 = not reported, 1 = high, 2 = college, 3 = grad, 4 = mixed
17. \_\_\_ Mean age of participants (if not reported, use 99)
18. \_\_\_ Setting  
0 = does not mention, 1 = Small/Local business, 2 = medium corporation, 3 = large corporation, 4 = university, 5 = mixture, 6 = government, 7 = other
19. \_\_\_ If workplace: Average number of years at workplace (if not reported, use 99)
20. \_\_\_ Recruiting technique  
1 = voluntary in school, 2 = mandatory in school, 3 = voluntary work, 4 = mandated at work, 5 = pre-selected on some criteria, 6= other
21. \_\_\_ Research methodology  
1 = correlational, 2 = True experiment, 3 = quasi-experiment, 4 = matched experiment, 5 = other
22. \_\_\_ Assignment of participants to groups

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Variable	Name of Scale	# of Items	Reliability
Interpersonal Trust			
Organizational Trust			
Trust (Overall)			

0 = no groups used, 1 = random assignment, 2 = matched, between subjects, 3 = pre/post within subjects, 4 = other

### Variables Being Studied

23. \_\_\_\_\_ RIN (2-digit code from Access data base)

24. \_\_\_\_\_ First author Last name

25. \_\_\_ Study number (use numbers from within report)

Trust: Which of the trust components do the experimenters examine in the research? (3)

Indicate whether or not the particular form of trust is present (1 = No and 2 = Yes).

Present	Form of Trust
25.	1. Trust (Overall)
26.	2. Willingness to be vulnerable
27.	3. Organizational Trust
28	4. Interpersonal trust

Did the study manipulate (check all that apply, 0 = not at all, 1 = somewhat, 2 = moderately, 3 = definitely):

29. \_\_\_ Trust in organization

30. \_\_\_ trust in supervisor

31. \_\_\_ Interpersonal trust (Dyadic trust)

32. \_\_\_ Complexity of task

33. \_\_\_ Leader Member Exchange (LMX)

If assessed, indicate/name the scale, number of items used, and reliability coefficient (if available)

Were there any variables controlled for (check all that apply)

33. \_\_\_ Age

34. \_\_\_ Gender

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35. \_\_ Tenure

36. \_\_ LMX

37. \_\_ Length of employee supervisor contact

38. \_\_ Education

39. \_\_ Organizational level

40. \_\_ Social Desirability

41. Please Explain

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### Organizational Citizenship Behaviors

Work Behaviors (3): Which of the following work behaviors were examined in this research? Indicate whether or not the particular work behavior is present (1 = No and 2 = Yes).

Present	Work Behavior
42.	1. Organizational Citizenship Behaviors (As a whole)
43.	2. Organizational Citizenship Behaviors- Individual
44.	3. Organizational Citizenship Behaviors- Organization

45. \_\_ How was OCB labeled

0 = not used, 1 = OCB, 2 = contextual performance, 3 = extra-role performance, 4 = other

46. \_\_ Method of Assessment

1 = self-report survey/questionnaire, 2 = supervisor rating, 3 = co-worker rating, 4 = observation,  
5 = other

47. If assessed, indicate/name the scale, number of items used, and reliability coefficient (if available)

Variable	Name of Scale	# of Items	Reliability
OCB (as a whole)			
OCB-I			
OCB-O			

48. \_\_ How was OCB assessed?

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0 = Not assessed, 1 = Self-reported, 2 = direct supervisor, 3 = co-worker, 4 = other level of management,

5 = other\_\_\_\_\_

49.\_\_ How were the surveys/assessments administered

0 = Given out by the researcher, 1 = Given out by participant, 2 = Randomly assigned

50.\_\_ Did the study break OCB into separate behaviors?

1 = yes, 2 = no

51.\_\_ If yes: check all that apply

Conscientiousness, Sportsmanship, Civic Virtue, Courtesy, Altruism

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### Outcome information

52.\_\_\_\_ Report Code Number (2-digit code from Access data base)

53.\_\_\_\_\_ First author Last name (12 chars)

54.\_\_\_\_ Study number (use numbers from within report)

55.\_\_\_\_ Outcome number. Brief description of this comparison

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56.\_\_\_\_ Type of measure

1= direct observation of behavior, 2 = neurological measure, 3 = self-report/questionnaire 4 = other

57.\_\_\_\_ Are the following relationships presented as correlation coefficients = 1 or beta weights = 2

Please fill in descriptive statistics where available

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
58. Gender															
59. Age															
60. Tenure															
61. CWB															
62. CWB-I															
63. CWB-O															
64. OCB															
65. OCB-I															
66. OCB-O															
67. Interpersonal trust															
68. Organizational Trust															
69. Trust in supervisor															

**APPENDIX B:**

Studies, Variables, and Effect Sizes Used in Meta-Analysis

## TRUST & OCB

Table 1. Studies, variables, and effect sizes used in meta-analysis

Author	Trust - IV	OCB - DV	<i>N</i>	<i>r</i>
Altuntas & Baykal (2010)	Overall (Yucel, 2006)	24 item OCB - (Dolma, 2003)	482	.30
Brower, Lester, Korsgaard, & Dineen (2009)	Interpersonal (Mayer & Davis, 1999)	7 items OCB-I, 7 items OCB-O (Williams & Anderson, 1991).	197	.64
Chiaburu & Lim (2008)	Interpersonal (Mayer & Davis, 1999)	4 item OCB (Williams & Anderson, 1991)	160	.34
Deluga (1994)	Interpersonal (Butler, 1991)	24 item OCB - (Podsakoff, 1990)	154	.12
Deluga (1995)	Interpersonal (Butler, 1991)	24 item - (Podsakoff, 1990)	123	.38
Goodwin, Whittington, Murray, & Nichols (2001)	Overall (Podsakoff et al., 1990)	24 item OCB - (Organ, 1988)	309	.41

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Table 1 (continued)

Author	Trust - IV	OCB - DV	N	<i>r</i>
Gurbuz (2009)	Interpersonal (Butler, 1991)	30 item OCB -(Organ & Konovok, 1989)	301	.45
Hansen, Dunford, Boss, Boss, & Angermeier (2011)	Organizational (Zand, 1972)	13 item OCB-(Podsakoff, 1990)	2,422	.30
Konovsky & Pugh (1994)	Interpersonal (Roberts & O'Reilly, 1974)	32 item OCB (Podsakoff, Mackneize, Moorman, & Fetter, 1990)	475	.28
Krosgaard, Brodt, & Whitener(2002)	Interpersonal (Butler, 1991)	7 item OCB - (Van Dyne & LePine, 1998)	246	.31
Lau & Lam (2008)	Interpersonal (Dirks, 2001)	13 item OCB (Podsakoff, 1990)	268	.34
Lester & Brower (2003)	Interpersonal (Schoorman, Mayer, & Davis, 1996)	4 item OCB- (William & Anderson, 1991)	193	.21
MacKenzie, Podsakoff, & Rich (2001)	Interpersonal (Podsakoff et al., 1990)	10 item OCB - (Podsakoff & MacKenzie, 1994)	477	.16

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Table 1 (continued)

Author	Trust - IV	OCB - DV	N	<i>r</i>
Narasimhan & Lawrence (2012)	Interpersonal (Simons et al., 2007)	6 item OCB (Williams & Anderson, 1991)	89	.19
Pillai, Schriesheim, & Williams (1999) (Study 1)	Overall (Marlow & Nyhen, 1992)	24 item OCB - (Podsakoff, 1989)	192	.31
Pillai, Schriesheim, & Williams (1999) (Study 2)	Overall (Marlow & Nyhen, 1992)	24 item OCB - (Podsakoff, 1989)	155	.08
Podsakoff, MacKenzie, & Bommer (1996)	Interpersonal (Podsakoff et al., 1990)	20 item OCB (Organ, 1988)	1539	.08
Singh & Srivastava (2009)	Interpersonal (Cook & Wal, 1980)	20 items OCB (Podsakoff & MacKenzie, 1989)	303	.31
Tan & Tan (2002)	Overall (Gabarroo & Athos, 1976)	OCB - (Koyas & Decotii's 1991)	230	.30
Yakovlvea, Reilly, & Werko (2010)	Interpersonal (Jarvenpaa, 1998)	9 item OCB - (Podsakoff, 1997)	73	.44
Yoon & Suh (2003)	Interpersonal (Nyhan & Marlowe, 1993)	14 item OCB (Podsakoff & Mackenzie, 1991, 1993)	201	.44