TRANSPARENCY, TRANSLUCENCE OR OPACITY?
AN EXPERIMENTAL STUDY OF THE IMPACT OF A LEADER'S RELATIONAL TRANSPARENCY AND STYLE OF HUMOR DELIVERY ON FOLLOWER CREATIVE PERFORMANCE

by

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Authentic leaders endeavor to create an environment of relational transparency, which is proposed to evoke trust in leader-follower relationships. An important proposed outcome of this relationship is enhanced creative performance. This relationship can be more effectively facilitated through a leader's use of an appropriate style of humor delivery, which enhances followers' positive emotions and also results in higher creative performance. A 2 X 4 experimental study is proposed where a virtual leader's delivery of humor will have positive effects on follower positive emotions. The same leader's relational transparency, an important component of authenticity and authentic leadership, will also influence followers' trust in the leader. Positive emotions and trust are important mediators in the relationships between humor delivery and transparency, respectively, on the followers' creative performance. Although significant linkages were found between several of the humor conditions and

between relational transparency and trust, the findings were largely non-supportive of the hypotheses advanced herein. A series of supplemental analyses were conducted *post hoc* using methods such as Partial Least Squares. These methods were more robust given the data considerations and yielded important findings with regard to participants' perceptions of transparency and their relationship with perceptions of leader behavior and the outcome variables. Furthermore, by collapsing the humor conditions into simpler comparisons, significant differences were discovered between the groups exposed to humor versus those who were not. A discussion of the results is followed by a discussion of the study limitations, which offers suggestions for future research.

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CHAPTER ONE

INTRODUCTION TO THE STUDY

Purpose of the Study

> *Instances exist in which the unadulterated expression of one's true self may result in severe social sanctions. Here, I would expect authenticity to reflect a sensitivity to the fit (or lack of) between one's true self and the dictates of the environment and an awareness of the potential implications of one's behavioral choices. Authenticity is not reflected in a compulsion to be one's true self, but rather in the free and natural expression of core feelings, motives and inclinations.* --Kernis (2003, p. 14).

Each day organizational behavior fails to reach its full potential and organization members fall short of fulfilling their highest capabilities. Researchers have considered various reasons in explanation of and for the expiation of this phenomenon. Common examples, among many, of discovering how to get the best from workers include motivation theory, job design and person-organization fit. During the past 100 years, scholars have also studied how leadership can explain, and perhaps mitigate, this shortcoming (Bass, 1990).

Recently, scholars have suggested that positive organizational behavior (Luthans, 2002), positive scholarship in the study of organizational behavior (Cameron, Dutton, & Quinn, 2003) and authentic leadership (Luthans & Avolio, 2003) can reduce the discrepancy between actual and potential behavior in

organizations. In this paper, two positive psychological constructs are considered: the role of the authentic leader, specifically, the authentic leader's relational transparency, and positive emotions. Leaders who are transparent are more open, self-disclose more and evoke higher follower trust (Gardner, Avolio, Luthans, May, & Walumbwa, 2005). Leaders who can evoke positive emotions in their followers empower them to perform more creatively and efficiently and to strengthen their personal resources (Fredrickson, 2003).

Two other constructs offered in this paper are humor and trust. Previous work in the organization sciences has considered the role of humor in the workplace (e.g., Duncan, 1982; Duncan, Smeltzer, & Leap, 1990; Malone, 1980; Kahn, 1989; Vinton, 1989). However, there is little literature discussing the role of humor in the social influence process of leadership (for an exception, see Avolio, Howell, & Sosik, 1999). Here a leader's style of humor delivery is hypothesized to enhance followers' positive emotions, which, in turn, positively influences creative performance outcomes. Trust also influences performance outcomes (Cummings & Bromiley, 1996) and is offered here as a mediator of the transparency → creative performance relationship. The context of this study is the American public school in which trust and positive affect and, subsequently creative performance, are measured.

Research Questions

Several basic research questions are addressed in this study. First, can leaders use humor to foster positive performance outcomes? Second, will positive emotions intervene to account for variance in the humor→ performance

relationship? Third, will leaders who are more transparent enhance performance outcomes? Fourth, will trust intervene to account for variance in the transparency→ performance relationship? Fifth, will a follower's affect have a mediating effect on the relationship between a leader's relational transparency and followers' trust in the leader? Lastly, will positive emotions intervene to account for variance in the transparency→performance relationship? A series of hypotheses stem from these research questions and are offered in Chapter Two.

Organization of the Dissertation

This dissertation is organized into five chapters. The first chapter introduces the purpose of the study, outlines the problem statement and delineates the research questions. Chapter Two provides a literature review for the independent variables of leader transparency and humor style, the dependent variable of follower creative performance, and the intervening variables of positive emotions and trust. The hypotheses to be tested in this study are advanced in Chapter Two. The third chapter offers and explains the design, measures and methodology that were used in the study. Chapter Four offers the results of the study, including a discussion of the data analysis. Last, Chapter Five provides a discussion of the findings in relation to the hypotheses advanced in Chapter Two. A short conclusion ends Chapter Five.

CHAPTER TWO

LITERATURE REVIEW AND HYPOTHESES

The model, presented below, depicts the relationship of a leader's influence on followers' creative performance via humor and relational transparency, as mediated by positive emotions and trust. Relational transparency is proposed to be a critical component of authenticity (Kernis, 2003) and authentic leadership (Avolio, 2005).

Insert Figure 1 here

Creative Performance

> *In a knowledge driven, global business environment, the concept of creativity seems primed to enjoy the same attention as TQM.*
>
> --Jaussi and Dionne (2003, p. 475)

Creativity and individual creative processes are not new topics in the behavioral sciences. Both have been studied extensively, but little work has been conducted within the realm of the leader-follower relationship. This is surprising because creativity and innovation have been offered as important outcomes as well as critical for an organization's performance (Hitt, Hoskisson, Johnson, & Moesel, 1996; Lei & Slocum, 2005).

Bass (1985) discussed the effects of an organization's culture and climate on openness, trust and subsequent follower performance. In recent years, there has been a growing body of work about the importance of innovation and creativity as an outcome of the leader-follower relationship. For example, Mumford, Scott, Gaddis, and Strange (2002) synthesized research papers on creativity published

since 1990. Jaussi and Dionne (2003) studied the effects of unconventional leader behavior on follower creative performance at both the individual and group levels. They found that unconventional leader behavior was a construct distinct from, and explained variance in group cohesion above and beyond that of, transformational leadership.

Other work relevant to this discussion includes Tierney, Farmer, and Graen's (1999) finding that creativity ratings were correlated with effective, leader-follower exchange relationships; Redmond, Mumford, and Teach's (1993) study of follower performance based upon leader problem construction and contribution to follower efficacy beliefs resulting in follower creativity; the positive effects of transformational leadership on group fluency and flexibility (Sosik, Avolio, & Kahai, 1998), and the role of flow and anonymity as mediators between transformational leadership and creativity (Sosik, Kahai, & Avolio, 1999).

Humor

A jest's prosperity lies in the ear
Of him that hears it, never in the tongue
Of him that makes it...
--Shakespeare, *Love's Labour's Lost* (1962, p. 42)

Rosaline, a character of Shakespeare's imagination, uttered the above, which is an apt summarization of the elusiveness and ephemeral nature of humor. Sometimes followers will not "get" the leader's message, thus delivery is critical. However, care must be taken in the style of delivery used or the message will be too subtle, perhaps lost, or completely misunderstood.

The true value of humor is that it facilitates communication by allowing one to say things otherwise left unsaid (Zinsser, 1995). Message content is emphasized by heightening a truth to a level that it will not only be seen as funny, but also so that its stark reality is revealed. This revelation occurs because, conceptually, humor enables organization members to create psychological distance between them and difficult issues. The paradox is that our ability to psychologically adopt the detached perspective that humor offers depends partly on our having already assumed sufficient detachment from a situation so as to perceive its humor (Kahn, 1989). Examples in the organization include the gallows humor of workers on the front-line of an otherwise emotional issue. Specifically, paramedics may heighten the level of reality about death, dying, injury and illness to cope with the visceral mess they face daily. Similarly, teachers may joke about children bullying other children that might elicit tears from people who do not see its effects on a daily basis. This does not mean that paramedics and teachers are callous and lack compassion and empathy, but that their roles at the center of such matters expose them to a high emotional cost without a release valve that still allows them to work.

From a literary perspective, this is known as the "heightening of truth" to a level at which it can be seen without bias (Zinsser, 1995). A prototypical example of this is Joseph Heller's (1962) novel, *Catch 22*, which humorously portrayed events set during World War II. Although the specific antics of Yossarian, the story's hero, are fictitious, they are based upon Heller's experiences as a pilot during the war. A simple autobiography of these experiences would not have

conveyed Heller's message about the senseless horror of war and the absurdity of the military organization as did his humorous rendition.

Zinsser (1995) provided examples of other literary humorists who performed similar acts of courage, including the late Erma Bombeck and her views on parenting; George Will's acerbic, but cerebral and witty social commentary, and Garrison Kellior's parody of everything that leaves itself open to criticism.

In *Animals, Inc.,* authors Tucker and Allman (2004) discuss organizational issues from the perspective of the barnyard. This hilarious little volume contains considerable wisdom, but its success lies not within the content, but the delivery. These authors offer a slim volume that more readily gets their point across than would hundreds of pages of endless admonition.

Humor at Work

> *Work in itself does not have to be laborious, joyless, brutally repetitious, isolated in its performance, and, in general, deformative of human beings.*
>
> --O'Hare (1992)

Linstead (1985) and O'Hare (1992) each offered humor as an essential and important part of organizational life. A leader's use of humor in delivering a message can also be an effective persuasive device (Geuens & De Pelsmacker, 2002) and has the power to bridge distances between managers and employees so that they might identify with each other and view the organization through the same lens (Fox & Amichai-Hamburger, 2001). Theoretical and empirical work in the organization sciences has revealed positive effects of humor at work.

Conceptual articles have proposed the value of humor as ingratiatory behavior (Cooper, in press), in improving work group performance (Duncan, 1982; Duncan, Smeltzer, & Leap, 1990), as a management tool (Malone, 1980), and as a tool for organizational change Kahn (1989). However, a growing body of empirical work has revealed positive effects of humor in organizations. Avolio et al. (1999) studied the moderating influence of humor on leadership and organizational outcomes in the banking and insurance industries (e.g., financial performance). Vinton (1989) found that humor alleviated status differentials and workplace tension between organization members. Humor was also found to enhance employee perceptions of manager effectiveness (Rizzo, Booth-Butterfield, & Wanzer, 1999).

Humor Defined

> *...humor can coldly cut or warmly bind together ...The quest for a single, universal definition of humor is reminiscent of the search for personality and intelligence, neither of which has definitions accepted by all.*
>
> – MacHovec (1988, p. ix)

The definition of humor is also as elusive as its nature. Scholars, in their repeated attempts to develop taxonomies of humor, have inadvertently confused and confounded the discussion. Definitions abound and terminology is confusing.

Humor as a construct has enjoyed the attention of hundreds of books, countless articles in academic and popular publications and in thousands of research studies. Even scholars in the organization sciences (e.g., Avolio et al., 1999; Cooper, in press) have considered the topic, although not to the extent that it has in other disciplines like communication, psychology and anthropology.

However, despite this bevy of work there has been no comprehensive definition of humor offered forth.

Scholars have repeatedly attempted to develop briefer taxonomies of humor, but to little avail. Many definitions of humor are tautological in that they use humor outcomes, such as laughter, as an explanatory mechanism of the humor construct (cf. Roeckelein, 2002). Therefore, humor is more easily defined according to the theoretical lens through which it is viewed. Theories of humor are not uncommon in the psychological literature, but most are descriptive and taxonomic accounts and do not explain *why* humor occurs. A review of the literature makes apparent that the pursuit of a grand theory humor has been largely abandoned for more focused research by scholars.

Eysenck's (1942; cf. Nias, 1981) typology (Figure 2) of affective, cognitive and conative theories is the most succinct psychological model offered to date and has been reflected throughout the twentieth century in the work of other noted humor scholars. Another dimension is the orectic, which is a combination of the affective and conative theories. Other theorists have elaborated upon this model, but retain its basic features. Lefcourt and Martin (1986) identified a typology of three basic humor theories: arousal, incongruity and superiority. Raskin (1985) also summarized the various extant theories into the categories of psychoanalytical (affective/arousal; e.g., Freud, 1963); cognitive-perceptual (cognitive/incongruity), and social-behavioral (conative/superiority). The differences between the three typologies lie within the various psychological dimensions of the humor experience and different and

modern insights. Because the dimensions of the three typologies are so similar in definition no distinction will be made between them. Please see Table 1 for a comparison of the three typologies discussed previously.

Insert Figure 2 here

Insert Table 1 here

The first two theories, affective/arousal and cognitive/incongruity, are useful in explaining *why* jokes are funny, but it is conative/superiority theory that most aptly explains humor. Superiority theory is considered, by some theorists, to be the sole explanatory theoretical basis for humor because all humor has a superiority element to it, even if generated in fun or in a so called harmless fashion, and a dissection of any joke, riddle or pun reveals a butt of the story (Gruner, 1997). Therefore, the focus of this study is on the conative leg of the Eysenck humor model. A presentation of the superiority theory of humor will follow brief descriptions of the arousal and incongruity theories.

Arousal theories. Arousal, or affect, theories are those in which humor induced laughter reduces built-up tension. Early conceptualizations of affect theories of humor include Joubert's physio-psychological theory of laughter as being pleasure mixed with pain; Descartes's discussion of both the physiological and psychological aspects of affect-based, derisive humor, and McDougall's relief theory (Roeckelein, 2002). Modern discussions of arousal theory include Freud's theory of humor as defense mechanism against unpleasant emotion; Berlyne's

theory of a relationship between physiological arousal and subjective pleasure, and Apter's reversal theory, which is concerned with meta-motivational states that, basically, define a person's outlook as serious or one of humor (Lefcourt, 2001).

Incongruity theories. While arousal theories focus on *why* things are funny, incongruity (cognitive) theories tell us *what* it is about the structure of jokes that makes them funny. The basis of incongruity is that things that one finds funny must be somewhat unexpected, ambiguous, illogical or inappropriate (Meyer, 1997). Known also as bisociation, cognitive elements are salient when two normally disparate and incompatible frames of reference -- ideals or situations -- are brought together in a surprising or unexpected manner (Koestler, 1964). This dual perception is what makes a good joke funny. Suls (1983, 1972) further argued that incongruity requires resolution, which is critical for eliciting a humorous response. An example is the punch line of a joke that makes sense on the basis of information received earlier in the joke. Early thinkers who discussed the cognitive theories were Cicero, Locke, Kant and Schopenhauer (Eysenck, 1942).

Superiority theories. The fountainhead of most humor theories depends on either a sense of our own superiority or on a sense of the inferiority of others. The two-component approach to superiority theory was originally suggested by Hobbes who said, in *Leviathan*, that laughter occurs when "a sudden glory [arises] from some sudden conception of some eminency in ourselves; by comparison with the infirmity of others, or with our own formerly" (Berleyne, 1969: 801).

Plato and Aristotle each observed the superiority nature of humor albeit as threatening.

Superiority humor theories hold that actors derive pleasure from another's misfortune without experiencing cognitive dissonance or fear of social censure. Most humor techniques, or specific uses of humor, fall under this category. Examples include absurdity, cynicism, facetiousness, imitation, insults, invective, irony, parody, ridicule, sarcasm and satire (Berlyne, 1969; cf. Berger, 1992).

Humor scholar Charles Gruner (1997) argues that *all* humor is evoked for the purpose of establishing superiority and that other theories are only loosely to be considered theories of humor subsumed under that of superiority theory. Because analyses of humor and jokes reveal a target, regardless of the joker's intent, humor is offered here as typically employed to poke fun at someone (including oneself). Therefore, the superiority theory of humor will be the framework upon which this study is based. In light of this assertion, two ways in which humor can be delivered to an audience are via self- or other-derogation. Both styles fall within the superiority perspective of humor in that all humor is created at the expense of either oneself or someone else.

Humor is thought to result from a sense of superiority derived from the derogation of another person or of ourselves in our former naiveté. But it is not always employed in order to elevate oneself in relation to a disliked target as evidenced in the use of putdown humor in temporary groups, which had a socializing effect provided that certain rules of its use were observed (Lennox-Terrion, & Ashforth, 2002).

Types of Humor within the Superiority Domain

> *Humor can be dissected, as a frog can, but the thing dies in the process and the innards are discouraging to any but the pure scientific mind.*
> --Zinsser (1995, p. 237).

Previously, I presented Gruner's (1997) argument that all humor can be safely classified under superiority theory. At its most basic level, humor results from, as Hobbes said, a "sudden glory" of seeing our superiority in relation to someone else or of us in our former naiveté. Therefore, two ways by which a humorous message can be delivered is through self- or other-derogation, or making fun of ourselves or someone else.

Vinton (1989) suggested that self-directed ridicule is useful in communicating to followers that a leader or manager has a sense of humor and can laugh at him or herself. In this model, the self-disparaging humor condition is posited to be the most effective because it does not invoke superiority over other people whereas the other-disparaging humor condition specifies a familiar target, other than the leader, who is put down or ridiculed. Self-directed humor makes a powerful statement to followers, and thus enables those over whom they have authority to see that leaders are accessible rather than remote, capable of adopting detached perspectives of them and are models for others to do the same (Kahn, 1989). If leaders can laugh at themselves they create conditions that are more relational and communication with followers is proposed to be more transparent.

Effects of Humor on Positive Emotions

Moore and Isen (1990) suggested that affect is manipulated by humor. Although the impact is seldom profound it has been found to reliably alter

emotion states. Isen (1987) addressed the problem of asymmetry between positive and negative emotions and suggested that these effects may result from the different cognitive contexts generated by the dichotomy of emotions.

Emotions are a conscious or unconscious multi-component response tendency that evolve and manifest over relatively short periods of time (Fredrickson, 2001). They are comprised of the personal meaning of antecedent events, or the person-environment relationship (Lazarus, 1991). Emotions have an object, or signify some *thing* (e.g., occurrence), and involve an appraisal process that triggers response tendencies such as subjective experiences, physiological changes and facial expressions (e.g., the Duchenne smile; Fredrickson, 1998).

In recent years, Fredrickson (1998; 2000; 2001; 2002; 2003; Fredrickson & Joiner, 2002) has positioned positive emotions in the emerging field of positive psychology. Her broaden-and-build theory suggests that people's thought-action repertoires can be built for the purpose of strengthening personal resources (i.e., physical, intellectual, social and psychological; Fredrickson, 2003). Outcomes of the development of positive emotions are "upward spirals toward optimal individual and organizational functioning" (Fredrickson, 2003: 163). This is accomplished, in part, through a broadening of the cognitive context (Isen, 1987). In this paper, it is hypothesized that humor can elicit positive emotions that have subsequent effects on performance, specifically creative performance.

Fredrickson (2002, 2003) cites evidence why positive emotions researchers should not observe the traditional notion that emotions are associated with urges to act in particular ways, called specific action tendencies (i.e., a fight-

or-flight response to fear). Although appropriate for the discussion of negative emotions and responses, specific actions have not been linked to positive emotions such as joy and contentment, which tend to be more like feeling states than specific, physiological responses to stimuli (Fredrickson, 2003). Instead, Fredrickson (1998) suggests that, rather than relying on a single theory to explain all emotions, distinct theories should be allowed for different emotions or for different subsets of emotions (e.g., positive and negative emotions).

In response to this observed need, Fredrickson (1998; 2000; 2001; 2002; 2003) has offered a theory of thought-action tendencies in response to positive emotions. Negative emotions are local feeling states that narrow the response repertoire to specific actions, while positive emotions have been hypothesized as global feeling states that broaden response repertoires. Rather than assuming specificity of response, Fredrickson proposed a discussion of the relative breadth of the momentary thought-action repertoire.

Fredrickson's (1998) broaden-and-build theory describes the *broadening* of people's thought-action repertoires that enables them to explore novel approaches to thought and action, or the broadening of attention and cognition. The *build* component refers to the person's ability to develop their various resources (e.g., intellectual, psychological, physical and social). The hypotheses that reciprocal relationships between positive emotions, broadened cognitions and positive meaning trigger upward spirals toward emotional well-being have been empirically supported (Fredrickson & Joiner, 2002).

Previously, positive emotions were proposed to enlarge the cognitive context and therefore produce patterns of thought that are both flexible and creative (Fredrickson, 2001; Fredrickson & Joiner, 2002; Isen, 1987). Personal resources built through broadening are proposed to be both enduring and durable (Fredrickson, 2002, 2003).

Fredrickson (1998) has offered forth four categories of positive emotions – joy, interest, contentment and love -- that contain other similar emotions. Love has been proposed as a fusion of the other three positive emotion categories. Fredrickson (2003) also discusses pride, following personal achievement, as a positive emotion. Each category contains emotions of similar type as the category title. For example, the positive emotion category of joy contains the specific emotions of joy, cheerfulness and exhilaration, among others.

Humor itself is not an emotion (McGhee, 1979). However, it does elicit positive affective responses such as exhilaration, joy and cheerfulness (Ruch, 1993; Fredrickson, 1998, 2000). It has been found that laughter occurs after conditions of heightened tension or arousal when, concurrently, there is a judgment that the situation is safe or inconsequential (Nias, 1981). Fredrickson (2002) said that the act of laughing results in higher contentment, an emotion she has identified as positive (Fredrickson, 1998).

Researchers have found, using the Multidimensional Sense of Humor Scale (MSHS), that participants with higher sense of humor scores suffer lower levels of depression (Thorsen & Powell 1994). Thorsen, Powell, Sarmany-Schuller, and Hampes (1997) found positive correlations between a high sense of

humor and optimism. Participants with lower sense of humor scores were more pessimistic. High sense of humor was also negatively correlated with negative self-esteem. Kohler and Ruch (1996) found positive correlations between high MSHS scores and cheerfulness, and negative correlations between high MSHS scores and seriousness and bad mood.

In other research, greater levels of humor were associated with a more positive self-concept (i.e., higher self-esteem) and greater positive affect in response to both positive and negative life events (Martin, Kuiper, Olinger, & Dance, 1993). Nias (1981) cited research in which cartoons presented to participants under conditions of high moderate and low anxiety and anger produced an emotional state incompatible with anger expression. Baron and Ball (1974) angered participants and then exposed them to comic humor. Subsequent scores on a mood measure indicated that feelings of anger decreased for those participants in the humor condition. Therefore, humor is not only an effective coping mechanism (Lefcourt, 2001), but may also enhance the enjoyment of positive life experiences.

Because humor is situational and unique to each audience member (Roeckelein, 2002) different styles of delivering a humorous message will have differential effects on listeners. The four humor conditions explored in this study will be (1) a *generic* style in which the butt of the joke, if any, is not the leader or participants within the treatment conditions; (2) a *self-disparaging* style in which the leader pokes fun at him or herself; (3) a *familiar-other-disparaging* style in

which the leader pokes fun at a focal actor in the treatment condition, and (4) a *non-humor* condition in which no attempt at humor is made by the leader.

> Hypothesis 1: *Generic and self-disparaging styles of humor delivery will have more positive relationships with various outcomes than will styles of humor delivery that target familiar others.*

Effects of Positive Emotions on Creative Performance

Ashkanasy (2004) presented theoretical and empirical support for the nexus of emotions and performance. Previously, Ekvall (1996) found that members who were emotionally involved in an organization's operations and goals were also more creative; those who were more playful and who worked in climates in which humor and light mood were fostered were also more innovative.

As discussed previously, positive emotions enlarge the cognitive context and therefore produce patterns of thought that are flexible and creative (Fredrickson, 2001; Fredrickson & Joiner, 2002). This occurs through Fredrickson's (1998) broaden-and-build theory, which *broadens* people's "thought-action repertoires" and thus encourages them to explore novel approaches to thought and action, or the broadening of attention and cognition. The *build* component refers to the person's ability to develop their various resources (e.g., intellectual, psychological, physical and social). Empirical support for this assertion has been offered by Isen (1993; cf. Isen, Johnson, Mertz, & Robinson 1985) who suggested that positive affect tends to promote the exploration and enjoyment of new ideas and possibilities.

Positive affect has also been found to promote creativity in problem solving and negotiation exercises (Carnevale & Isen, 1986), and speed and

efficiency in decision making (Isen & Means, 1983). Isen (1993) suggested that positive affect tends to promote the exploration and enjoyment of new ideas and possibilities, as well as new ways of looking at things. Wofford and Goodwin (1994) proposed that leaders who cognitively emphasize transformational behaviors include more content regarding follower trust, individuality and creativity than those leaders who cognitively emphasize transactional leadership behaviors.

Isen and Daubman (1984) conducted four studies and found that positive affect influenced creative performance on word association projects, but interpreted their results in relation to the influence of positive affect on cognitive organization, lending support to Fredrickson's (1998) later work on the thought-action repertoire hypothesis. Isen, Johnson, Mertz, & Robinson (1985) investigated the influence of positive affect with their results indicating that it may facilitate performance in creative problem solving and thus provided support for the effects of positive feelings on cognitive organization. Cognitive organization, or schematic structure, is the way information is thought about and related to other information (Isen, 1993). Furthermore, not only is the way information is cognitively organized important, but so too is the content of what is being organized (Dozois, 2002).

> Hypothesis 2*: Follower positive emotions have a positive relationship with follower creative performance outcomes.*

Positive Emotions as a Mediator between Humor Style and Creativity

It is hypothesized here that followers' positive emotions has a partial mediating effect on the relationship between a leader's style of humor delivery

and follower's creative performance. Humke and Schaefer (1996) found, using the MSHS, a direct linkage between a greater sense of humor among mental health workers and higher levels of creativity on a drawing completion test. Previously, Ruch (1993) hypothesized that humor has a positive effect on exhilaration and joy (positive emotions) that, in turn, have an effect on creativity. Furthermore, researchers have found evidence of mediation in that students who were more anxious performed better on multiple-choice examinations after exposure to written humor (Smith, Ascough, Ettinger, & Nelson, 1971). Isen, Daubman, and Nowicki (1987) conducted four experiments indicating that positive affect, induced by comedy, improved participant performance on two creativity tasks. In light of this evidence, a leader who evokes positive emotions in followers by employing an appropriate style of humor delivery can expect followers to be more creative.

> Hypothesis 3: *Follower positive emotions will partially mediate the relationship between leader humor delivery and follower creative performance.*

Relational Transparency

Transparency is a topic emerging concurrently with the discussion of leader authenticity and ethics in the post-millennium business literature. Authors of both popular and academic publications caution against the previously covert nature of managerial decision making in which leaders possess information to the exclusion of followers (cf. Gardner et al., 2005; Pagano & Pagano, 2004). However, before launching into a discussion of transparency we must first explore

its underpinnings in the authenticity and authentic leadership development literature.

Authenticity and Authentic Leadership

The words "Know thyself" were first seen inscribed in Greek -- *Gnothi se auton* -- over the portal of the Sun god Apollo's Oracle of Delphi temple in ancient Greece. Since then philosophers like Plutarch and Socrates, have been attributed as having offered this admonition to their followers. Today, the words are used in the discussion of authenticity and authentic leadership (Harter, 2002; Luthans & Avolio, 2003).

To be authentic, one must know, accept, and remain true to oneself. However, authenticity is not a dichotomy whereby a person is either authentic or inauthentic, but exists on a continuum ranging from more to less authentic (Erickson, 1995).

Kernis (2003, p. 13) defined authenticity as a reflection of "unobstructed operation of one's true, or core, self in one's daily enterprise." He suggested four underlying components that comprise authenticity, which have been recast by Gardner et al. (2005) as (1) self-awareness, (2) balanced information processing, (3) authentic behavior, and (4) relational transparency. To be authentic, one must know, accept, and remain true to oneself regardless of environmental contingencies. Fortunately for leaders who attempt to achieve a beneficial level of self-awareness, authenticity exists on a continuum ranging from more to less authentic rather than existing in a dichotomous state in which we either are or are not authentic (Erickson, 1995). All four dimensions are critical in this discussion

of the authentic leadership construct, but relational transparency is the dimension specifically considered in this study. Relational transparency occurs when the authentic leader displays high levels of openness, self-disclosure and trustworthiness in close relationships (Avolio et al., 2004).

Authenticity in leadership is an increasingly common topic of discussion in both the academic (Luthans & Avolio, 2003) and applied literatures (e.g., George, 2003). Avolio and colleagues (Avolio, 2005; Avolio, Gardner, Walumbwa, Luthans, & May, 2004; Gardner et al., 2005; Luthans & Avolio, 2003) have recognized the emergence of authentic leadership as a root construct of leadership upon which any style of leadership may operate. In other words, an authentic leader can be transformational, transactional, directive or participative and be defined as an authentic leader. For example, the authentic transactional leader employs contingent reward in motivating her or his followers, but a transformational leader may be equally authentic yet is individually considerate and intellectually stimulating in eliciting follower performance.

Authentic leaders are genuine and their intent is to serve others and to empower followers through their leadership (George, 2003). They lead in a way that followers and other audiences (e.g., other leaders, peers, stakeholders) recognize as authentic and they identify personally with followers and socially with their organization (Kark & Shamir, 2002). Authentic leaders act according to their values, build relationships that enable followers to offer diverse viewpoints, and build social networks with followers. They also value followers' talents and nurture those talents into strengths (Luthans, & Avolio, 2003). They are "aware of

the context in which they operate; and are confident, hopeful, optimistic, resilient, and high on moral character" (Gardner et al., 2005, p. 4). Therefore, authentic leadership can serve as a catalyst for the emergence of an organization's culture and for sustained, veritable performance (Luthans & Avolio, 2003).

Dimensions of Relational Transparency

Bass and colleagues (Bass, 1985, 1998; Avolio & Bass, 1988) suggest that transformational leaders influence followers by transcending their own self-interests for the good of the organization. This is accomplished by arousing followers' self-awareness. Similarly, transparency and the serving of the common interests of followers are critical components in the development of authentic leaders, sometimes in direct conflict with individual self interests (Avolio, Sivasubramaniam, Murry, Jung, & Garger, 2003).

Authentic leaders are those persons who have achieved high levels of self-awareness regarding their beliefs and values, which they act upon during relationally transparent interactions (Avolio et al., 2004). Leader self-awareness is arguably the core element of the authentic leadership process contributing to increased performance and occurs when individuals are cognizant of their own existence and the context in which they operate over time. Self-awareness is not a destination, but a journey along which a person is in a continual state of understanding his or her strengths, purpose, and core values (Luthans & Avolio, 2003).

Gardner et al. (2005) assert that authentic leaders will be "relatively transparent in expressing their true emotions and feelings to followers [when

appropriate], while simultaneously regulating such emotions to minimize displays of inappropriate or potentially damaging emotions" (p. 31). In other words, within relational transparency lies the commitment of a leader to help a follower to see the leader's true self (Avolio et al., 2004) through a genuine rather than deceptive self-presentation. The leader attempts to establish the ultimate goal of trust, among other outcomes, through appropriate disclosure. Self-disclosure is the expression of true emotions (Kernis, 2003), regulated to minimize inappropriate display or potentially damaging effects (Gardner et al., 2005).

Because such leaders are more transparent and self-disclose more, they evoke higher levels of follower trust through personal identification with their followers (Avolio et al., 2004). Authentic leaders act according to their values, build relationships that enable followers to offer diverse viewpoints, and build social networks with followers. Authentic leaders also recognize their followers' talents and see their job as one in which they nurture followers' talents into strengths (Luthans, & Avolio, 2003).

Examples of academic discussions encompassing the notion of transparency include Brown and Starkey's (2000) suggestion that self-reflection and an identity-focused dialogue among organization members aids in establishing organizational identity and organizational learning processes. Another example is that of Jones and George (1996) who suggested that a free sharing of information and knowledge, contributing to unconditional or relational trust, leads to interpersonal cooperation and teamwork. Furthermore, Popper and Lipshitz (2000) explicitly identify what we are calling transparency, as well as

leadership, as two factors that aid in the development of organizational learning. Also, Avolio (2005) discusses transparency as an important component of life-long leadership development. The benefits of transparency in leadership, such as an organizational climate in which all members are open and forthright, have been touted in the same popular literature that has also cautioned against the previously covert nature of managerial decision making in which leaders possess information to the exclusion of followers (Pagano & Pagano, 2004).

Although authenticity in its most generic form may be revealed to have various elements, relational transparency is of greatest interest in this discussion of authentic leadership. Relational transparency "is relational in nature, inasmuch as it involves valuing and achieving openness and truthfulness in one's close relationships" (Kernis, 2003, p. 15) and occurs when a leader displays high levels of openness, self-disclosure and trustworthiness in leader-follower relationships (Gardner et al., 2005). Here, I hypothesize that relational transparency occurs when one discloses along the person-relevant dimension of *self-disclosure*.

In relational transparency, self-disclosure is comprised of the expression of the four aspects of self-awareness described and defined previously: goals/motives, identity, values, and emotions (GIVE). These values are frequently activated by important events that are external to one's self-awareness. Therefore, the knowledge that is necessary for one's self-awareness is thus manifested in transparent behavior. Also important to this discussion is the relevance of the information shared, or disclosed, between leaders and followers.

In order to share oneself transparently, one must first be self-aware. Kernis (2003) described the awareness component of authenticity as that which involves "having awareness of, and trust in, one's motives, feelings, desires, and self-relevant cognitions" (p. 13). Self-awareness is a means to an end. It is a process by which persons come to reflect on their own unique values, identity, emotions, and goals and motives (Gardner et al., 2005). Authentic leaders are highly self-aware regarding their beliefs and values, which they act upon during interactions with followers and other organizational stakeholders (Gardner et al., 2005). Importantly, self-awareness is not the final step, but a journey along which a person tries to develop an understanding of his or her core values, purpose, and strengths (Luthans & Avolio, 2003).

Goals and motives. In their definition of goals, Lord, Brown, and Freiberg (1999) presume the context of the working self concept (Marcus & Wurf, 1987): "contextualized schema that direct current information processing" (p. 180). An authentic leader's possible self is supposed to reflect "the leader's role as an agent for positive change with respect to themselves and others" (Gardner et al., 2005, p. 21). Authentic leaders will transparently share their motives for pursuing specific organizational goals thus leaving no question in followers' minds as to the leader's intentions.

Identity. Schlenker (1985) defines identity as "a theory (schema) of an individual that describes, interrelates, and explains his or her relevant features, characteristics, and experiences" (p. 68). Gardner et al. (2005) assert that identification is the process by which the role of the authentic leader is

encompassed into one's interpersonal identity. However, people can define themselves as followers through a similar identification process (Gardner & Avolio, 1998). Both forms of identification are enacted when leaders and followers form an authentic relationship between them through private and public interactions characterized by openness, appropriate self-disclosure, and trustworthiness (Avolio, 2005).

Values. Values can be defined as "conceptions of the desirable that guide the way social actors select actions, evaluate people and events, and explain their actions and evaluations" (Schwartz, 1999, pp. 24-25). Values are applied across situations as normative standards for behavior and evaluation (Schwartz, 1992) and thus provide a basis for actions conforming to the needs of the overall community and to the individuals within it (Lord & Brown, 2001). Internalized values become integral to a person's self-system, but they are learned through socialization for the benefit of serving groups. Once values are learned and internalized, authentic leaders are true to their values, to themselves, and resist contextual pressures to compromise these values (Erickson, 1995).

Emotions. Self-awareness is not merely one's simple knowledge of her or his goals and motives, identity, and values. It also includes the knowledge of one's emotions as a determinant of effective leadership (Avolio, 2003). In regard to relational transparency, authentic leaders are hypothesized as those persons who express their true emotions to followers, but who also regulate their emotional displays to ensure that they are appropriate. Furthermore, this emotional intelligence includes an understanding of the causes and effects, and

longitudinal trends, of emotions on cognitive processes and decision making. As authentic leaders come more self-aware, their relationships are proposed to become more open and a subsequent and appropriate sharing of thoughts and feelings will occur.

Effects of Transparency on Trust

Trust is an important proximal outcome of the leader-follower relationship and is evoked through an authentic leader's relational transparency, which is proposed to result in greater trust in interpersonal relationships (Kernis, 2003). Leaders who are relationally transparent will evoke higher levels of follower trust (Gardner et al., 2005).

A variety of trust definitions exist in the organizational literature. Trust can be defined as the willingness of an individual to be vulnerable to the actions of another person or group (Mayer, Davis, & Schoorman, 1995) in situations that involve some degree of risk (Deutsch, 1958). In addition to risk, factors like benevolence, competence, and honesty are typically perceived as those indicative of trust (Mayer et al., 1995).

Scholars have also attempted to delineate trust along more than one dimension. For example, Rousseau, Sitkin, Burt, and Camerer (1998, p. 395) described trust -- to the extent that social identification underlies positive expectations -- as affect- or identification-based. They referred to trust motivated by these social-psychological bonds as relational trust, which is antithetical to calculus-based trust that identifies both cost and benefit attributes of achieving expected outcomes (Lewicki & Bunker, 1996). Jones and George (1998)

advanced a theoretical contribution similar to Rousseau et al's (1998) two dimensional model, except their two dimensions were labeled as conditional and unconditional trust. Conditional trust is defined as a transactional trust state in which all parties are willing to transact provided that the other behaves in an appropriate manner, acceptable to the other party, whereas unconditional trust occurs following the so-called "pretense of suspending belief" and is based more on confidence in the other party than on the transactional nature of the relationship (p. 535).

Trust is normally addressed on a dispositional level by considering the psychology of the individual. However, Cummings and Bromiley (1996) raised the group, or organizational, level of analysis in their definition that trust assumes the socially embedded nature of interactions among organization members and the parallel discussion of leadership as a social influence process that is dependent upon trusting relationships for maximum effectiveness. The rationale for this definition of trust rests on the socially embedded, subjective, and optimistic nature of most interactions within and between people. This definition considers *why* people trust and *why* trust declines or increases (Tyler & Kramer, 1996).

The definition of trust employed in this paper is that offered by Cummings and Bromiley (1996, p. 303), which states that trust is "an individual's [or individuals among a group] belief ... that another individual or group (a) makes good-faith efforts to behave in accordance with any commitments both explicit or implicit; (b) is honest in whatever negotiations preceded such commitments, and (c) does not take excessive advantage of another even when the opportunity is

available." This definition is appropriate for this study because of the socially embedded nature of interactions among organization members and the parallel discussion of leadership as a social influence process that is dependent upon trusting relationships for maximum effectiveness.

The transparency→trust linkage is well supported in the organizational literature. Argyris (1962) proposed that increased trust could occur when openness is a group norm. Later work by Farris, Senner, and Butterfield (1972) supported the hypothesis that interpersonal trust was an important correlate of organizational behavior. They found that Brazilian bankers, in climates of openness, perceived a more effective and satisfying organizational climate and that trust and openness were related to involvement with work and social integration into work teams. Further study of trust in organizations continued to support that openness was an important factor of trust (Hart, Capps, Cangemi, & Caillouet, 1986). Openness, or the free sharing of ideas and information (Butler, 1991), has been studied by organization scholars as an antecedent to trust. Mayer et al. (1995) offered three factors that comprise trust and are common to previous scholarly work: ability, benevolence and integrity. They suggest that openness is a trust antecedent that falls within the integrity factor.

Whereas mere public relations efforts could decrease a customer's trust, consistent customer-oriented activities such as availability, helpfulness, and openness in communication create the perception that the organization acts out of genuine care and concern, hence generating relational trust (Butler, 1991).

Butler (1991) conducted a series of studies to develop a scale to measure conditions of trust in a specific target person (e.g., leader). In developing his Conditional Trust Inventory, Butler (1991) found openness to be discriminant across several samples of students and working adults. This work was based upon factors discussed by both Jennings (1971) and Gabarro (1978). Butler and Cantrell (1984) later ranked the importance of the trust conditions identified by them as competence, integrity, consistency, loyalty, and openness. Gabarro (1978) found that the integrity and openness dimensions were most salient to a followers' upward trust of a leader, although Butler and Cantrell (1984) did not find support for this hypothesis.

> Hypothesis 4: *A leader's relational transparency has a positive relationship with followers' trust in the leader.*

Effects of Trust on Creative Performance

Fukuyama (1995) said that trust empowers individual creativity. This powerful statement is echoed, empirically, by Ekvall (1996) who found that openness and trust lead to creativity in organizational relationships in which ideas and opinions are brought forward and shared, and communication is open and straightforward. Trust has been widely hypothesized as having a variety of positive effects (Kramer, 1999; Kramer & Tyler, 1996), not the least of which is its effect on performance outcomes.

In other research, Scott and Bruce (1994) demonstrated that professional employees who had high-quality relationships (e.g., trust) with their managers were described by their managers as more likely to generate innovative ideas. Additionally, teams have been found to perform better when they trust their leader

(Dirks, 2000). In a meta-analysis of the trust literature, Dirks and Ferrin (2000) found the trust → performance linkage to be significant. Despite these findings, the effects of trust on behavior and performance have been less consistent than the effects of trust on attitudes and perceptions (Dirks & Ferrin, 2001). Thus an important contribution of this paper to existing literature will be to strengthen the leader-follower trust → performance linkages (cf. Avolio, 1999; Bass, 1998).

The reciprocity of a relationally transparent leader-follower relationship is evident in leader influence on trust and follower creativity. Avolio (1999) cited evidence that transformational leaders stimulate their followers' efforts toward innovation and creativity. They do so by challenging assumptions and looking at both new and routine problems from new and alternative perspectives. Followers then stimulate the leader to reevaluate his or her assumptions, even if the leader has established policy based upon these assumptions. Furthermore, trust in the leader can have "dramatic, positive effects on a team's effort" (p. 120).

Amabile (1983) suggested that in order for individuals to be creative they need freedom to take risks. Under conditions of trust, people were found to be more likely to take risks with creativity as an outcome (Amabile, Goldfarb, & Brackenfield, 1990). The willingness to take risks is a component of trust (Mayer et al., 1995; Meyerson, Weick, & Kramer, 1996) thus making trust an antecedent to creativity, a hypothesis advanced here.

> Hypothesis 5: *Higher levels of follower trust in the leader have a positive relationship with follower creative performance outcomes.*

Trust as a Mediator between Relational Transparency and Creativity

Because trust is hypothesized to be an intervening variable in the relationship between relational transparency and creative performance, relational transparency can thus be considered as an antecedent to trust. Through verbal expressions of trust, managers can convince employees that they are capable of being creative (Tierney & Farmer, 2002). Avolio (1999) cited evidence that transformational leaders stimulate their followers' efforts toward innovation and creativity. Furthermore, trust in the leader can have "dramatic, positive effects on a team's effort" (p. 120).

> Hypothesis 6: *Follower trust in leader will partially mediate the relationship between leader relational transparency and follower creative performance.*

Effects of Transparency on Positive Emotions

Authentic leaders are hypothesized to be relationally transparent in expressing their true emotions to followers, while simultaneously regulating these emotions to minimize the display of inappropriate or potentially damaging emotions. In other words, as authentic leaders come to know and accept themselves, they will display higher levels of openness, as well as a willingness to share, appropriately, their thoughts and feelings in their relationships.

According to Fredrickson (2002), positive meaning results in positive emotions. Ekvall (1996) has found that there is emotional safety in organizational relationships in which ideas and opinions are brought forward and shared, and communication is open and straightforward. In other words, people can find positive meaning in their connectedness with others. Gardner et al. (2005) suggest

that relational transparency results from interpersonal intimacy. By evoking personal meaning in a relationship with followers, manifested in the openness and self-disclosure of relational transparency, a leader will evoke positive emotions in followers.

However, these relational elements of the authentic leader-follower relationship are not simply enacted on the follower by the leader. When leaders are effective, they give something and get something in return in their relationships with followers, thus everyone wins. This reciprocal relationship is based in part upon the assertion that followers influence the performance of leadership by serving as a reference group (Bass, 1985). Additionally, a leader's behavior is affected to the extent that he or she identifies with his or her followers and the followers' expectations of the leader (Pfeffer & Salancik, 1975).

By employing Fredrickson's (2001, 2002) broaden-and-build theory, authentic leaders can evoke global, positive emotions in followers by *broadening* their thought-action repertoires. By doing so, the authentic leader can further aid followers' in *building* their personal resources in order to mitigate negative emotions in future events. Here, the authentic leader can broaden the followers' positive emotions by behaving in a relationally transparent manner. Furthermore, an authentic leader can sustain this developmental intervention by *building* followers' personal resources in order to stave off negative emotions in times of future strife. Interest and contentment are both positive emotions of openness and the relational (Fredrickson, 2000). Interest is openness to new ideas, experiences

and actions representing the broadening of thought-action repertoires, and thus an outcome of the *transparency* → *positive emotions* relationship.

> Hypothesis 7*: A leader's relational transparency will have a positive relationship with followers' positive emotions.*

Effects of Positive Emotions on Trust

To extend the previous discussion of conditional and unconditional trust, Jones and George (1998) proposed that emotions and moods are fundamental in the discussion of experienced trust. They assert that not only do affective states (e.g., emotions and moods) pervade interpersonal trust, but emotions also "color one's experience of trust" (p. 534). Also proposed is the assertion that trust is built on expectations that are emotionally constructed. Fluctuations in these affective states are reflected in the trust experience (Frijda, 1988). Therefore, in the evolution of the trust relationship, all parties must experience positive emotions within the context of the relationship. Kramer, Brewer, and Hanna (1996) foreshadowed this evolution of the trust relationship with their discussion of moving trust away from the pure calculative view and toward its affective dimensions.

Empirically, this discussion is supported by Isen and Levin (1972) who found that helping behaviors are greater for those participants experiencing positive moods. In other research, linkages have been found between positive emotions and positive beliefs about human nature and liking for other people (Veitch & Griffitt, 1976).

> Hypothesis 8*: Followers' positive emotions have a positive relationship with followers' trust in the leader.*

CHAPTER THREE

STUDY DESIGN AND METHODOLOGY

To date, there has been little research conducted on how followers perceive leader transparency and are affected by it. Humor has been the subject of considerable research, but there has been little research conducted on this topic in the organizational sciences. In leadership, specifically, there have been little more than correlations found between leadership and sense of humor (Bass, 1990), with the exception of Avolio et al. (1999), Vinton (1989), Cooper (in press), and other isolated efforts. In this study, my endeavor was to establish the causal nature of relational transparency and humor on positive organizational outcomes.

Research Design

A two phase, 2 X 4 factorial design was proposed. The two phases were presented to participants one week apart. There are eight conditions in the study: two relational transparency treatments crossed with four humor treatments. The relational transparency conditions are categorized as *more* and *less* transparent. In the more transparent condition, the virtual leader exhibits more openness with information and ideas and also self-discloses his or her goals, identity, values and emotions. In the *less transparent* condition, the leader is vaguer in sharing along the above criteria. Transparency is manipulated along the breadth and depth of information provided to the participant as well as self-disclosure along the four elements of self-awareness: goals/motives, identity, values, and emotions (GIVE).

To ensure that I did not simply measure the effects of quantity of information provided, the manipulations were written to ensure an approximately

equal word count and to ensure that the same basic information was provided, but that the quality of information was manipulated. For example, the more transparent leader might talk about "70% of respondents of last week's Gallup poll" where the less transparent leader will merely say "a majority of respondents of a recent national poll."

The four humor conditions were: (1) a *generic* style in which the butt of the joke, if any, is not the leader, participants or focal characters within the treatment conditions; (2) a *self-disparaging* style in which the virtual leader elicits humor by poking fun at him or herself; (3) a *familiar-other-disparaging* style in which the leader pokes fun at a target that is focal to the brainstorming activities, and (4) a *non-humor* condition during which the leader makes no attempt at humor. Humor was manipulated twice in each of the two phases. One manipulation was a comment embedded in the text that established that the virtual leader had a sense of humor. The other manipulation was accomplished by displaying a cartoon that was representative of the discussion presented in the condition. Visual humor has been found to elicit significant effects in research participants (cf. Nias, 1981).

Pilot Studies

Several efforts were made to ensure that the manipulations to be employed in the study were effective. First, several subject matter experts in the context of the study, as related to the population, were consulted. Second, a pilot study was undertaken to categorize a selection of cartoons into the various humor manipulations as well as to assess the funniness of the visual media.

Subject matter experts. Five education professors, two with research interests in the study context, and all with considerable experience working with teachers and their experiences in the classroom, were asked to evaluate the manipulations for veracity. Generally, all of the experts who were consulted responded favorably and with valuable responses for making the manipulations more relevant and realistic for the participants. An array of responses were evaluated and incorporated, as appropriate, into the manipulations. Examples of changes include technical data about the incidences of school bullying and suggestions to improve the face validity of the manipulations. Specifically, the subject matter experts provided input on the types of comments and allusions that a school leader would be most likely to make.

Cartoon pilot tests. A series of 23 cartoons were presented to participants in the pilot study. Several were drawn by professional artists (e.g., cartoons appearing in *The New Yorker*, as well as several concepts of the author's that were drawn by an undergraduate art student with experience in cartooning). Participants included students in an education administration doctoral program (N=14), associates of the author (N=6), and members of an undergraduate management course (N=20). In the pilot studies, participants were provided with the evaluation criteria and then sorted the cartoons into three categories based on: (1) the extent to which the focal actor of the cartoon poked fun at him- or herself (self-disparagement), (2) the extent to which the focal actor of the cartoon poked fun at a close other (familiar-other disparagement), and (3) the extent to which the focal actor of the cartoon made a joke that was either generic in nature or made

fun of a distant other (generic humor). Participants sorted 12 of the 20 cartoons into the generic humor group. Eight cartoons were equally spread across the self- and familiar-other disparagement categories.

Participants then rated the funniness of each cartoon on a five-point scale with anchor points of zero (not funny at all) and four (very funny). Three cartoons were bi-modal and were not rated as being particularly funny. These three were eliminated from the sort. The funniest cartoons in the generic humor category were rated 3.30, 3.30 and 3.60. In the self-disparaging category the funniest cartoons were rated 2.60, 3.00, and 3.40 and in the familiar other-disparaging the funniest cartoons were rated as 3.00, 3.40 and 3.70. The cartoons from each category were used at the same points in the respective manipulations. In other words, the funniest cartoon from the generic category was used at the same point in the manipulation as the funniest cartoon in the self-disparaging humor condition. The cartoons were presented independently of each other during the experiment. Therefore their funniness relative to the other cartoons selected was not an issue.

Sampling Plan

A sample size of n=52 (overall N=416) for each treatment condition was considered necessary to achieve statistical power great enough to identify a "medium" effect size (r =.36) (Cohen, 1988) at a traditional level of significance ($\alpha = 0.05$). Here, we endeavored to achieve statistical power of 0.80, which "represents a reasonable and realistic value for research in the behavioral sciences" (Keppel, 1991, p. 75). In an attempt to foresee attrition, the target

recruiting number was 75 participants per condition (n), which if achieved, would result in an overall sample size (N) of 600.

Recruitment

Using the aforementioned sampling scheme, superintendents of public school districts in a Midwestern state were approached with the sample frame criteria. The director of an education association identified several school districts whose superintendents had an interest in furthering the study of leadership. Those superintendents were asked for permission to recruit their teachers. Once the superintendent granted written permission to conduct the experiment he or she was provided with a recruitment letter addressed to potential participants in the sampling frame. Those participants interested logged onto the website and experienced the intervention.

Participants

In the actual study, 150 participants logged onto the site for Phase 1. Of those participants, 71 returned to complete Phase 2. The distribution of participants per treatment condition is presented in Table 2. The background data for these participants is presented in Table 3. More women (92) than men (56) logged onto the website and their average age was 33.56 years. All but seven were white/Caucasian, two were African-American, and five were Hispanic American. Sixty-four were single and 76 were married. Forty of the respondents were elementary school teachers, 25 worked in middle schools and 23 taught at high schools.

Of the 71 participants who returned for Phase 2, 38 were men and 33 were women. The average age was 30.89 years. Sixty-six were white/Caucasian, two were African-American and five were of Hispanic origin. Thirty-eight were single and 29 reported being married. Fourteen reported holding a bachelor's degree and 17 a master's degree. Twenty-one were elementary school teachers, seven were middle school teachers and five reported being high school teachers.

Insert Tables 2 and 3 about here.

Context: Bullying in Public Schools

The context in which this experiment was conducted was a public school faced with the issue of bullying, which is a growing concern in school systems globally (Olweus, 2003; Reznicek, Nelson, & Kuskie, 2004). The context was relevant to the sample of public school teachers recruited as participants. Furthermore, the classroom is a focus of many bully intervention programs, also relevant to the teacher sample. A variation of this topic is also salient in the organizational sciences: bullying also occurs in the workplace. By developing the leadership potential of public school leaders, antisocial behavior in children may be better managed. Murphy (2004, p. 18) said that schools are "perhaps the only social institutions, beyond the family" that have the capabilities to effectively address this phenomenon. So too might workplace behavior be better managed (Carey, 2004) and the bully is oftentimes the boss although sometimes it's a peer (Victims, 2004).

Procedure

The web-based experiment consisted of two phases, both of which simulated a personal interaction with a virtual leader, who was presented to the participant as a retired public school administrator with expertise in the topic of bullying.

In Phase 1, the participants gained access to the study website and were asked to read a consent form and indicate their willingness to volunteer for the study. They were then randomly assigned to one of the eight treatment conditions. Once on the website, participants saw a short, introductory paragraph and were asked to complete a background survey. They were also asked to complete two pre-measures for control: intrinsic motivation for creativity and humor appreciation. After completing the surveys, the participants were routed to a screen resembling that of Figure 3. It was within this basic, graphical interface that the manipulations occurred (Appendix A).

Insert Figure 3 about here

On this screen, the participants saw a short address from a fictitious, virtual school leader, who provided a brief biography and a statement of the context and problem. Following this the leader discussed the brainstorming activity and prompted participants for responses about two specific aspects of bullying that had been identified from the education literature.

The brainstorming task presented to the participants was utilized for the purpose of measuring creative and innovative performance (cf. Staw & Barsade,

1993) under the various conditions of leader transparency and humor style. It was intended that participants perceived their assignments as important beyond the immediate scope of the study. As a manipulation check, participants were asked to share their perceptions about the relevance of the brainstorming activity.

After the participant responded to the prompts, the virtual leader offered closing comments and the participant was then routed to the first of several post-measures. Once the post-measures were completed the final screen of the study contained a statement that reminded participants that they should return one week later to complete Phase Two of the experiment. An email was sent to remind participants about Phase 2.

Phase 2 was very similar to Phase 1. Again, participants logged onto the website and saw the same screen interface displayed a week prior. The leader once again made an introductory statement that repeated the humor and transparency manipulations while asking participants to once again brainstorm, after a week of reflection, upon how to address a vignette that details a specific bullying situation. Transparency and humor were manipulated precisely as during Phase 1, except that different disclosures and cartoons were used to elicit a humorous response.

Following the leader's closing comments, participants were once again asked to complete the post-measures. Once completed the final screen of the study informed participants that they would receive the aggregate study results at a future date.

Dependent Variables and Measures

Creative Performance: Distal Outcome

Participant responses to the brainstorming exercises in both phases of the experiment were coded for creative performance and measured by the mean scale score of trained coders who were blind to the study's hypotheses. Because there was no baseline creative task, participants' intrinsic motivation for creativity was collected as a pre-measure (five-item scale; Amabile, 1985). Scale reliabilities for this study are reported in the *Results* section.

This evaluation is based upon that used by Jaussi and Dionne (2003) in their study of the effects of a leader's unconventional behavior on creativity. They measured creativity along a variety of dimensions. The dimension most applicable to this study is the creative performance of followers as evaluated by judges' responses to three items. The items were scored from 1 (to no extent) to 5 (to a great extent). The item stems were (1) how much of this person's perspective was unique; (2) overall, how creative was this person's approach to this task, and (3) how would you rate this person's creativity in terms of idea generation? The alpha reliability for this scale in the Jaussi and Dionne study was α=.81 and the reliability of the judges was determined by taking a random subsample of 20% of the ratings, with an agreement 87% of the time.

Independent Variables and Measures

The two independent variables – leader transparency and humor style – were fully manipulated; therefore neither was directly measured. However, manipulation checks for both were employed to assess the effectiveness of the

experimental conditions. The humor and transparency treatment conditions are presented in Appendix A.

Perceptions of Humorous Delivery

There are four humor conditions explored in this study: self-disparaging, familiar other-disparaging, generic other-disparaging, and no humor. Humor was manipulated twice in each phase, once by displaying a cartoon that was representative of the discussion in the treatment condition and once in a comment made by the leader.

A manipulation check was employed for the purpose of assessing participant perceptions of the leader's humorousness. This was measured by soliciting responses to five questions: four numeric scale questions and one open-ended question (Appendix E). The questions were administered following each phase of the study. The first numeric scale question ascertained the participant's reaction to the humor condition. The other three numeric scale questions assessed the participant's reaction to the style of humor delivery. An open-ended, follow-up question asked why the message was funny or not.

Perceptions of the Leader's Relational Transparency

In the previous section, the humor manipulations were discussed. The transparency manipulations occurred more frequently than the humor manipulations. Transparency was manipulated by the breadth and depth of information provided to the participant as well as self-disclosure along the four elements of self-awareness: goals/motives, identity, values, and emotions. Specifically, transparency was manipulated along the five dimensions discussed

previously: (1) the amount and richness of information shared (openness), and self-disclosure along the dimensions of the leader's (2) goals and motives, (3) identity, (4) values, and (5) emotions.

Two sets of items were used as a manipulation check to ascertain participants' perceptions of relational transparency in order to determine whether or not participants' perceptions of the transparency conditions are distinct from each other. Selected items from the 13-item Smircich and Chesser (1981) Authentic Relationship Questionnaire (Appendix E) that most closely matched the respondent's assessment of the leader's relational transparency were used (e.g., with me, this person is honestly himself/herself; I can really communicate what I feel with this person; when I talk with this person my words match my feelings, and my relationship with this person is open and direct.). Respondents were asked to indicate choices on each item on a seven-point scale ranging from 0 (very strongly uncharacteristic of the relationship) to 6 (very strongly characteristic of the relationship). An additional five items were used to capture participant perspectives of leader behavior in the eight treatment conditions (Appendix E).

Intervening Variables: Proximal Outcomes

Two mediator variables were employed in this study, followers' affect and follower trust, both of which were hypothesized to intervene in a variety of relationships. The indirect effects of the independent variables on creative performance were assessed. An indirect influence is also called a mediator effect, provided certain criteria are met in defining variables as such.

Complete mediation occurs when an independent variable no longer affects a dependent variable after the mediator has been added to the model. The more common situation is partial mediation, which occurs when the direct influence of the IV upon the DV is reduced but still significantly different from zero when the mediator is entered. Baron and Kenny (1986) discussed several steps to establish mediation. First, correlation between the IV (transparency) and the DV (creative performance) must be indicated by the model. No correlation between the two variables indicates that there is no effect to mediate. Second, the IV (transparency) must correlate with the mediator (trust). The third step in mediation is that the mediating variable must affect the DV. Last, to establish complete mediation, the effect of the IV on the DV should be zero when the mediating variable is entered. To demonstrate mediation both the transparency → trust and the trust → creative performance paths must be relatively large and the proposed mediator must account for a significant portion of these individual effects.

Likewise, the logic outlined above suggests that positive emotions mediate the *humor delivery* → *creative performance* relationship. In other words, if style of humor delivery affects positive emotions, and positive emotions affect creative performance, then style of humor delivery and creative performance must have an indirect relationship, carried (in part or in full) by positive emotions.

Data were collected on two different occasions. Because the scales used in the first data collection phase were also used a week later the sequence of the questions was altered. Random sequencing of items has previously been advised

against because of the complexity, and potential for human error, of categorizing, coding and analyzing responses. However, the use of technology in data collection methods helps researchers avoid these possible confounds. Data collection via technology is more reliable than human transcription and the possibility for errors in random ordering is thus mitigated. This is an opportunity to reduce systematic biases in responses that may result from not randomizing questions (e.g., ordering effect; Sekaran, 2003). The item order was the same for all participants in Phase 1. The randomization then occurred and the new item order was identical for all participants in Phase 2.

Follower Trust in the Leader

Trust was measured using a variation of the Cummings and Bromiley (1996) Organizational Trust Inventory (OTI) short form, which consists of 12-items. This scale measures trust between units within organizations. Given that a leader is a symbolic representative of all or a part of an organization, an adaptation of this scale is appropriate. The scale is comprised of three dimensions: (1) keeps commitments, (2) negotiates honestly, and (3) avoids taking excessive advantage.

Each dimension contains items that measure affect and cognitions. Behavioral intentions were also measured for validation during scale development. The behavioral items were not appropriate to the context of this study and intervention and were omitted from the scale. The items tapped future intentions, which were not manifest during the brief interventions that occurred

during this study. Responses to the scale were made on a seven-point scale (0=strongly disagree to 6=strongly agree).

Cummings and Bromiley (1996) developed the short version of the OTI after validating the complete version (Appendix B). The short form was presented to participants sans the behavioral items because they singularly and on average exhibited lower item-to-factor correlations than did the items in the other two factors. Furthermore, only the Affective and Cognitive items with the highest item to-factor correlations were used.

Follower Affect

Follower affect was measured using selected items from the Positive and Negative Affect Schedule (PANAS) (Watson, Clark, & Tellegen, 1988). The PANAS consists of two ten-item scales developed to measure positive and negative affect. However, only eight of the items most apparently related to positive emotions were employed in this study (Appendix D). Participants were asked to rate the extent to which they have experienced each of the eight selected emotions within a specified time period with reference to a 5-point Likert scale (1=very slightly or not at all; 5=very much). Various timeframes have been used to establish the frame of reference for responding to each of the particular emotions. Here, we were interested in state affectivity and asked participants about their current emotions.

Control Variables

There were two control variables in this study. Data for the two variables were collected during the Phase 1 pre-measures (intrinsic motivation for creativity and appreciation of humor).

Intrinsic motivation for creativity is a self-report measure of one's perceptions of one's creativity. This measure was used by Jaussi and Dionne (2003), whose scale contained six items. The original five-item scale used by Amabile (1985) was used here to control the effects that one's intrinsic motivation for creativity exerts on actual creative performance (cf. Tierney, Farmer, & Graen, 1999). By removing these individual differences from the treatment groups, the true effects of the manipulations become more accessible. Jaussi and Dionne (2003) found the scale to be reliable (α = .79) as did Tierney et al. (1999; α = .74).

Participants' propensity for humor appreciation was also controlled for because humor is a subjective phenomenon, and by removing individual effects the results of the effectiveness of the different humor conditions could be better determined. Three items from Thorsen and Powell's (1994) Multidimensional Sense of Humor Scale (MSHS), discussed previously, were used to indicate this control variable.

In addition to the control variables, data for four other variables were collected at the end of Phase 2. The first was a two-item assessment of the relevance of the creative task. A high mean score on this item indicated that participants saw purpose to their involvement in this study.

Participants were also asked whether or not they have observed bullying behavior by students in their schools. Data were collected on this item for the purpose of providing a summary report to participants for their participation in this study. Furthermore, if participants had been exposed to the real-life context it was presumed to affect their performance in the creative tasks. By capturing these observations the effects of the experience could be removed from the outcomes.

A third measure assessed participants' recollection of the virtual leader's name and gender, the latter of which was not revealed during the manipulations. The purpose of this question was to determine whether or not participants possessed an implicit theory about the gender of leaders.

The final four items gauged perceptions of the leader's expertise on the topic of bullying. It was necessary to determine if these perceptions accounted for effects apportioned to relational transparency because expertise is not a component of our conceptualization of leader transparency.

CHAPTER FOUR

RESULTS OF THE STUDY

Data Preparation

Prior to conducting the analyses, the data were screened for accuracy, missing data, outliers and to determine whether or not they met the common assumptions of normality, linearity, homoscedasticity and randomness of the sample. The following tables reveal the means, standard deviations and bi-variate correlations of and between the variables in both phases of this study.

Insert Tables 4 and 5 about here

To assess multivariate normality, skewness and kurtosis values for each outcome were examined. A perfectly normal curve has skewness and kurtosis values of zero; however, values of skewness that fall within +/- 2 and kurtosis within +/- 7 are considered acceptable. Applying these criteria, the variables explored in this study were found, without exception, to fall within these ranges.

At best, the analysis and interpretation of experiments with heterogeneous variances is complicated (Keppel, 1991). Therefore, any violation of the homogeneity of variance assumption has important implications in experimental work. This assumption is met if either of the following conditions holds true: (1) Box's *M* test is non-significant at $p<0.05$, and (2) log determinants for each group are approximately equal. Here, Box's test was non-significant ($\chi^2=22.09$, $p=.44$), therefore, the homogeneity of variance assumption was met. A runs test was conducted on the gender variable to test for randomness within the sample. There

were eight runs resulting in a significant value (z= -10.99, p<.001). A significant finding in a runs test indicates that the order of the scores above and below the cut point is purely random. Two cut points were used in this analysis: mean and median. In both cases, significant results were obtained.

A collection of scatter plots were produced for a visual examination for the presence of outliers. Subsequently, Mahalabonis tests were conducted and in none of the data were any values found to exceed the value of χ^2 (6) = 22.458, which is the distance of each case to the centroid of all cases. Any value in excess of this number is said to be an outlier (Tabachnick & Fidell, 2001). Furthermore, there was no evidence of multicollinearity in the collinearity diagnostics (e.g., variance proportions fell below .50). In light of the above evidence, no data transformations were deemed necessary because the various assumptions were not violated, nor was multicollinearity found or outliers discovered.

Missing data was a concern in this study. In the Phase 1 analyses, there were 31 of the 150 cases containing missing data in the trust and positive emotions measures. Forty-four of the 150 cases in Phase 1 did not complete the creative task. Pairwise deletion was used and the results of these analyses were then compared to a dataset in which mean substitution was employed. The findings in both sets of data were similar and in neither case was the model significant. Therefore, the pairwise deletion method was retained under the notion that using normal data with a high percentage of missing cases was preferable to conducting analyses with such a high percentage of replacement values.

Replacing so many missing values could have resulted in a consistent model across subpopulations of the dependent variable -- creative performance -- and such possible misrepresentation would be contrary to the central focus of the experiment, which is to discover these differences (Cohen et al., 2003). Furthermore, the sample was not large enough to warrant further investigation of missing data replacement with more sophisticated means, such as imputation or regression, which would have determined replacement values resulting in several disadvantages such as a reduced variance or possibly skewed results if the independent variables were not truly predictors of the effects hypothesized in the study (Tabachnick & Fidell, 2001).

The previous discussion was in relation to the distal outcome of creative performance. Two other, more proximal, dependent variables were also considered in this study: positive emotions and trust. When conducting hypotheses testing on the proximal variables, the missing data problem was somewhat less critical because more participants responded to those post-measures than completed the creative performance task. When the analyses of the proximal outcomes were conducted, the missing data were accounted for using the pairwise deletion method.

Data Analytic Results

Several different data analyses were conducted following the experimental design. A discussion of the various scale reliabilities is followed by a discussion of the manipulation checks and whether or not any mean differences existed between the different conditions presented to the participants. Third, the overall

MANCOVA results are presented. Fourth, a discussion of the relationships between the variables common to the two phases of the study is offered, followed by a discussion of the mediator analyses. The results of a series of *post hoc* supplemental analyses are presented following the findings for each hypothesis advanced in this experiment.

Reliability Analysis

Reliability scores were calculated after completion of the study. The three-item creative performance scale (cf. Jaussi & Dionne, 2003) had an alpha reliability of .92. Across all of the ratings the graders were within one score of agreement 73.20% of the time. The coders discussed and resolved the aforementioned discrepancies.

Participants' perceptions of the leader's humorousness were measured using three separate items, each operating as a unique manipulation check. The three items asked the participants if they found the leader: (1) to be funny; (2) to make fun of him- or herself, and (3) to poke fun at others.

The Smircich and Chesser (1982) authentic relationship scale items were employed here to assess participants' perceptions of the leader's relational transparency. Scale reliabilities were well above the acceptable level in both phases of this study (Phase 1: α=.83; Phase 2: α=.87). Participants' perceptions of leader behavior were assessed using four items from the Multifactor Leadership Questionnaire (Bass & Avolio, 1997). The scale reliabilities for both phases were high (Phase 1: α=.88; Phase 2: α=.90). The trust scale, overall, was reliable as were its various dimensions: affective, cognitive, keeps commitments, negotiates

honestly, and avoids taking excessive advantage. The reliabilities found in this study are presented in the following table.

Insert Table 6 about here

The positive emotions scale used in this study was an adaptation of the PANAS, discussed in Chapter 3. The scale showed acceptable levels of reliability during both phases of data collection (Phase 1: α=.92; Phase 2: α=.89). Crawford and Henry (2004) employed confirmatory factor analysis to validate that the PANAS contains two distinct factors, one reflecting positive affect and the second reflecting negative affect. The scale used in this study contained only the positive items. A factor analysis of the scale at Phase 1 revealed one factor with an Eigenvalue exceeding 1 (5.10) and loadings of all items ranging from .72 to .86. This factor explained 63.8% of the variance with a significant Bartlett's test of sphericity (χ^2 [28] = 625.66, p<.001). The Phase 2 factor analysis revealed similar findings with ranges from .64 to .86; a single factor with an Eigenvalue of 5.64 accounting for 70.6% of the variance, and a significant Bartlett's test (χ^2 [28] = 322.46, p<.001). However, the Phase 2 findings should be interpreted with caution because of the low respondent return rate.

Participants' intrinsic motivation for creativity was collected as a pre-measure. In this study, the five-item scale, used originally by Amabile (1985) yielded an acceptable level reliability (α = .84). Another pre-measure was the participants' appreciation of humor. Three items from Thorson and Powell's

(1994) MSHS were used to comprise this control variable, which, in this study, yielded an alpha reliability of .83.

Manipulation Checks

Prior to the discussion of the various analyses or of the eight hypotheses advanced in this study, a presentation of the manipulation checks is necessary to demonstrate whether or not the designed manipulations of humor delivery and relational transparency were effective. The means are presented in the tables following the discussion of each manipulation check.

Perceptions of leader behavior. Prior to offering a discussion of the effectiveness of the experimental design, it is instructive to determine whether or not the participants found the leader to behave as a leader in the first place. As discussed previously, perceptions of leader behavior were measured using five items selected from various factors of the Multifactor Leadership Questionnaire (MLQ; Bass & Avolio, 1997). The MLQ items are typically measured using a five-point scale. However, a seven-point scale used here ranged from 0 (not at all) to 6 (frequently, if not always). The reason for employing the seven-point scale was to be consistent with other scales used during the experiment.

The overall mean for the Phase 1 leadership perceptions was 5.42 (n=120; SD=1.05). The Phase 2 mean was similar (5.36; n=71; SD =.98). The higher mean ratings indicate that, overall, participants perceived the facilitator that they interacted with during the experiment to behave more as a leader than not.

An ANCOVA revealed that no statistically significant differences were discovered across the four humor conditions in Phase 1 ($F_{3, 101}$=1.85, p=.14) or in

Phase 2 ($F_{3, 53}$=.62, p=.61). Nor were any significant differences found between the two transparency conditions (Phase 1: $F_{1, 101}$=.97, p=.33; Phase 2: $F_{3, 53}$=.0002, p=.99). There were no interaction effects discovered in either phase of data (Phase 1: $F_{3, 101}$=.48, p=.70; Phase 2: $F_{3, 53}$=1.06, p=.35). The means of each treatment group are presented in Table 7.

Insert Table 7 about here

Perceptions of humor. In this experiment, humor was operationalized as the leader's style of humor delivery. Here the style was presented in one of four ways: self-disparaging, familiar other-disparaging; generic other-disparaging, and a no humor condition. Each of the three items in the humor manipulation check scale independently assessed the effectiveness of the humor conditions. An ANCOVA of each of the items was conducted for each of the two phases. Covariates included participants' predisposition to creativity, humor appreciation, gender, age, perceived relevance of the task, and the observation of the study context during the week prior to participation in the study. Pairwise comparisons for each item were made *post hoc* using Least Significant Differences.

Item one asked to what extent the participants perceived the leader as funny. A significant difference was found across the four conditions ($F_{1, 93}$=6.95, p=.001) in Phase 1. Pairwise comparisons revealed significant mean differences in several of the pairs. However, only the self-disparaging (mean difference .29, p=.001) and the generic humor conditions (mean difference 1.14, p=.001) were rated as funnier and found to differ significantly from the no humor condition,

which was expected. The familiar other-denigrating condition was not found to differ significantly from the no humor condition despite having a larger mean (mean difference=.36).

Two other pairwise differences are important to note. The first was between the familiar other-disparaging humor and the self-disparaging conditions (mean difference .50, p=.02). The second was between the familiar other-disparaging condition and the generic condition in which participants perceived the generic humor as funnier, as expected (mean difference -.66, p=.01).

No statistically significant differences were found across or between the Phase 2 humor conditions ($F_{3,52}$ =1.87, p=.15). A statistically significant difference was found between the two relational transparency conditions in Phase 1, but not in Phase 2 (Phase 1: $F_{1,93}$ =3.78, p=.06; Phase 2: $F_{1,52}$ =2.04, n.s.). The more transparent leader was found to be funnier than the less transparent leader (mean difference =.36, p=.06) in this directional significance test.

No interaction effect was discovered in the Phase 1 data ($F_{1,93}$=.24, p=.87). However, the Phase 2 data did reveal a statistically significant interaction ($F_{1,52}$ =3.11, p=.03) indicating that in all three humor conditions the less transparent leader was rated funnier than not, however the no humor participants rated the less transparent leader as significantly less funny.

As expected, all humor conditions resulted in higher ratings of funniness than did the no humor condition. This was true regardless of transparency. The self-disparaging and generic conditions were expected to be funnier than the

familiar other-disparaging condition, both comparisons of which were significant. However, the latter revealed a mean difference opposite of the expected direction.

Insert Table 8 about here

The second item in this scale asked participants to rate to what extent they perceived the leader as making fun of him- or herself. On this item there was a significant difference across the four humor conditions in Phase 1 ($F_{3, 93}$=2.70, p=.05), but not Phase 2 ($F_{3, 52}$=.87, p=.46). Pairwise comparisons revealed mean differences between the self-disparaging and no humor conditions (mean difference .67, p=.04) and the generic and no humor conditions (mean difference -.82, p=.02). No statistically significant differences were found between the transparency conditions on this item (Phase 1: $F_{1, 93}$=.14, p=.71; Phase 2: $F_{1, 52}$=1.26, p=.27).

Insert Table 9 about here

The third item asked participants to rate to what extent they perceived the leader as making fun of others. In Phase 1, a significant difference was found across the four conditions ($F_{3, 93}$=3.39, p=.02). A significant difference was found between the self-disparaging humor condition and the generic other-disparaging humor group (mean difference .28, p=.05). The expectation was that participants in the generic other-disparaging condition would be seen as making fun of others. However the significant difference was in favor of the self-disparaging condition. Furthermore, the familiar other-disparaging condition should have had a higher

mean than the generic condition, which was not the case. Thus, this highlights the nuance between these two iterations of what is, essentially, making fun of others. Another mean difference was found between the generic and the no humor conditions (mean difference .83, p=.02) in which the generic condition had a higher mean than the no humor condition, which was expected.

A significant difference was found across the four conditions in the Phase 2 analysis of this item ($F_{3, 52}$=2.86, p=.05). Pairwise comparisons revealed mean differences between the self-disparaging and generic humor conditions (mean difference -.83, p=.03); the generic and no humor conditions (mean difference -1.07, p=.04), and the familiar other-disparaging and generic conditions (mean difference -.94, p=.01). All of these differences occurred in the expected directions. No significant differences were found between transparency conditions on this item (Phase 1: $F_{1, 93}$=.22, p=.64; Phase 2: $F_{1, 52}$=1.06, p=.31).

Insert Table 10 about here

In summary, some of the Phase 1 manipulations appear to have functioned in the direction they were intended, at least with regard to the self-disparaging humor condition, which had higher means than the other conditions. Also, the familiar other-disparaging and generic humor conditions were found to be more indicative of making fun of others in some cases, which was a desired result of the manipulations. However, not all differences were statistically significant and some were in directions that were not expected. Thus the humor manipulations were not effective for some of the treatments.

In Phase 2 the manipulations did not appear to be effective at all and the mean differences were slight, with the exception of item three, which asked if the participants found the leader to make fun of others. These findings may have been the result of the ineffectiveness of some of the manipulations, a very small response rate, or both. The possible ineffectiveness of the manipulations is further explored in the *Supplemental Analyses* section presented toward the end of this chapter. The other limitations are discussed more fully in Chapter 5.

Perceptions of relational transparency. Relational transparency was operationalized as either more or less transparent in terms of the content of information presented, and along four dimensions of self-disclosure: goals/motives, identity, espoused values and emotions. An ANCOVA was conducted for each of the two phases. Covariates included participants' predisposition to creativity, humor appreciation, gender, age, perceived relevance of the task, and the observation of the study context during the week prior to participation in the study. Pairwise comparisons were made using Least Significant Differences.

In Phase 1, no significant mean differences were found across the four humor conditions on this scale ($F_{3, 91}$=.98, p=.41). The mean differences between the two Phase 1 transparency conditions were also non-significant ($F_{1, 91}$=3.93, n.s.). The Phase 2 findings also indicate that the manipulations did not occur fully as designed or intended. No significant mean differences were found across the four humor conditions on this scale ($F_{3, 52}$=.34, p=.80). The mean differences between the two, Phase 2 transparency conditions were also non-significant ($F_{1,}$

$_{52}$=.12, p=.73). The means for both phases are presented in the following tables. A series of supplemental analyses were conducted *post hoc* in order to study the leader's transparency. This is discussed later in this chapter.

Insert Table 11 about here

Relevance and Sensitization to the Context

At the conclusion of each phase of the study, the participants were asked to rate, on a five-point scale, whether or not they found their participation in the study to be relevant. The scale ranged from a rating of 0 (not very much) to 6 (a great extent). The frequencies and percentages of the relevance scale for each of the two phases are presented in the following table.

Insert Table 12 about here

Participants were also queried as to whether or not they had witnessed the study context of school bullying during the week prior to participation in the study. This was completed at the end of both phases. The means for the relevance and observation measures are presented in Table 13 in addition to correlations between the items. These items were entered into the various analyses as covariates and control variables.

Insert Table 13 about here

As shown in the table, participants in both phases indicated that their participation in the study was relevant with mean scores above midpoint of the

scale. This finding is informative because of the nature of the task. Our thinking is that in order for creative performance to occur there must be engagement in the activity. If participants perceived the study to have relevance to them then they should have been more likely to engage in the task than otherwise.

In Phase 1, precisely one-third (38) of the participants who responded to this question indicated that they had witnessed bullying behavior in their classrooms during the week prior to their participation in the study. The remaining 76 indicated that they had not witnessed the study context. In Phase 2, 21 participants responded "yes" to witnessing bullying behavior and the remaining 50 did not. This item was used as a control variable in the various analyses. If participants were exposed to the context immediately prior to participating in the study then they may have been sensitized to the topic, which might have influenced their responses or performance.

Perceived Gender

Another measure assessed participants' implicit notion of the virtual leader's gender, which was not revealed during the manipulations. At the end of the Phase 2, 42 of 57 said that the virtual leader, "Pat Richards," was a male (24 men and 18 women). The remaining 15 said that Pat was female (five men and ten women).

In order to determine whether or not the sex of the participant and the perceived sex of the virtual leader had effects on the dependent variables a MANCOVA was conducted using the same covariates as in previous analyses. The analysis was conducted for both phases of the study.

In Phase 1, no significant main effects were found for participant gender and for perceptions of the leader's gender for trust or creative performance. However, a main effect was discovered for gender perceptions when positive emotions was the outcome (Phase 1: F=7.88, p=.01) revealing that perceptions of the leader's gender shared an effect with participants' positive emotions. In other words, if a male participant perceived the leader to be female then higher positive emotions were reported. Furthermore, when trust was the dependent variable, an interaction effect was discovered (Wilks λ=.716, $F_{6, 36}$=2.38, p=.05) indicating that men who perceived the leader to be a woman rated her higher in trust than did women who perceived the leader to be a man. Significant results were also obtained for perceptions of leader behavior (F=5.09, p=.03).

Looking further into this finding, men who perceived the leader to be a woman rated her behavior as more leader like. Conversely, women who perceived the leader to be a man rated the leader's behavior as more indicative of a leader. Although not statistically significant, it is worth noting that both men and women who perceived the leader to be female also rated her as more transparent.

Insert Table 14 about here

The Phase 2 analysis yielded significant main effects for both participant gender (Wilks λ=.02, F=27.55, p=.003) and perceived gender of the leader (Wilks λ=.07, F=8.66, p=.03). There was not a significant interaction. Within participant gender, men were found to perform at a higher level on the creative performance task than women (F=15.39, p=.003) and also perceived higher levels of leadership

behavior (F=8.83, p=.02). Phase 2 comparisons on the dependent variables of creative performance, trust and positive emotions could not be made because of sample size and the low representation of men and women in some of the treatment conditions.

Repeated Measures

In order to determine whether or not the effects of a leader's style of humor delivery and relational transparency were manifest in the outcome variables over time a repeated measures analysis was conducted. A two-way, within subjects analysis of variance was employed to evaluate the effects of humor and transparency on the dependent variables of trust, positive emotions and creative performance across the two phases. Analyses revealed that there were no significant time effects across the two phases of creative performance (Wilks λ=.99, $F_{1, 26}$=.05, p=.83), trust (Wilks λ=.99, $F_{1, 68}$=.08, p=.78), or positive emotions (Wilks λ=.98, $F_{1, 68}$=.1.62, p=.21), nor were any interaction effects found for any of the three outcomes, over time, regardless of treatment condition. The means, mean differences and t-tests are presented in Table 15.

Insert Table 15 about here

Multivariate Analysis of Covariance

In this study we focused on two types of dependent variables. The first was the distal outcome of creative performance as rated by a third party. The second includes the self-report measures of trust and positive emotions. In order to study the effects of leader humor style and relational transparency on these

dependent variables, MANCOVA was conducted on the Phase 1 data. The Phase 2 analyses on creative performance were not conducted because several of the treatment conditions did not host adequate sample sizes to run the analyses on this dependent variable. However, more participants completed the Phase 2 trust and positive emotions measures than completed the creative performance task. Therefore, MANCOVA was conducted with these Phase 2 proximal outcome variables. Supplemental analyses were also conducted using partial least squares, the findings of which are presented and discussed more fully later in this chapter. A discussion of the implications of these findings is offered in Chapter 5.

In each MANCOVA, a group of covariates were included in the analysis. The criterion for their use was what Keppel (1991, p. 309) called a "substantial linear correlation with the dependent variable." The covariates meeting this criterion were the participants' intrinsic motivation for creativity, age, gender, observation of bullying behavior, and perceived relevance of the exercise. The covariates were then tested for reliability and the assumption of homogeneity of regression. The latter is the determination of whether or not the slope between the covariate and the outcome is the same for all groups and that there is no interaction between the covariate and the independent variables. Both the homogeneity assumption and the reliability of the covariates were found to be satisfactory by standard multivariate analytic guidelines (Tabachnick & Fidell, 2001). Specifically, interactions between the various covariates and each factor in the prediction were found to be non-significant.

In the Phase 1 analyses, the overall model was statistically significant when the outcome variables were trust (F=2.25, p=.02) and positive emotions (F=4.58, p<.01), but not for creative performance (F=1.33, n.s.). No main effects were found for humor with trust (F=.97, p=.41), but we did find an effect for relational transparency and trust (F=4.76, p=.03). However, the effect was not in the expected direction. In other words, the less transparent leader appeared to elicit higher ratings of follower trust than occurred in the more transparent condition. This trend was true for the two humor conditions in which a target of the humor, other than the leader, was specified. This perhaps indicated that when a leader is relationally transparent, yet makes fun of other people, the leader may not elicit the trust of his or her followers. The means of the Phase 1 analyses are presented in Table 16 and the significance tests are presented in Table 17.

Insert Tables 16 and 17 about here

The Phase 2 analyses, with trust and positive emotions as dependent variables, yielded a significant multivariate model (F=2.15, p=.03). However, no multivariate effect was found for humor (Wilks λ=.87, n.s.) nor for relational transparency (Wilks λ=.96, n.s.). The means and significance tests for the Phase 2 analyses are presented in Tables 18 and 19.

Insert Tables 18 and 19 about here

As stated previously, due to small sample size in certain treatment groups, the Phase 2 findings for creative performance were not conducted and results for

all Phase 2 dependent variables could possibly be spurious. The missing data cannot be assumed to have occurred randomly, which would result in violations to standard statistical assumptions, such as normality and independence.

Furthermore, it has been noted in the literature that although traditional methods are somewhat resistant to small changes in independence and normality, as well as to outliers, they are not infallible. Consequently, more robust methods should be considered in order to overcome the potential negative effects of violations of statistical assumptions in traditional analysis techniques (Wilcox, 1998). Partial least squares analysis was employed as a *post hoc* supplemental method to help overcome these violations. The findings of the supplemental analyses are presented toward the end of this chapter.

Mediator Analyses

In this section, a discussion of the mediator analyses is presented. The Phase 1 mediator analyses were conducted based upon the method employed in Cohen et al. (2003) by using zero-order and partial correlations among the variables in the study. The Phase 2 mediator analyses were not conducted because the sample size was insufficient.

As discussed previously, complete mediation occurs when the effect of an independent variable on a dependent variable is mitigated by the introduction of a third, mediating variable. Two mediation effects were hypothesized in this experiment. The first was the partial mediating effect of follower positive emotions on the humor delivery → creative performance relationship. The second

was the partial mediating effect of follower trust in the leader on the relational transparency → creative performance relationship.

Both mediator effects were studied by using bivariate and partial correlations and by following Baron and Kenny's (1986) four-step process. The zero-order and partial correlations for Phase 1 are presented in the following figure. The model depicted in Figure 4 considers the mediator effects across all conditions. Treatment group sizes were insufficient to test mediator effects within individual conditions. Partial least squares analysis was also employed as a *post hoc* means to explore the mediator effects hypothesized in this study. This is discussed in the *Supplemental Analysis* section.

Insert Figures 4, 5 and 6 about here

Phase 1 mediator analysis. The first step of the mediator analysis examines whether the correlation between the independent and dependent variables is significant in the model. In Phase 1, neither relationship revealed correlations larger than r=.10 and neither direct effect was statistically significant. This indicates that there was little effect to mediate. However, rather than not conducting the remaining three steps of the mediation analysis, we remained open to the possibility that the proposed mediator variables may have had a suppressor effect on the direct relationships. Therefore, we proceeded to step two, which examines if the independent variable correlates with the mediator. In neither case was there a significant correlation between the independent variable and the mediator. Step three examines if the correlation between the mediator and

dependent variable exists and step four examines whether mediation occurs when the direct relationship between the independent and dependent variables has been reduced or removed as a result of the introduction of the mediating variable. In neither case were steps three and four met. The indirect effects were very similar in value to the direct effects. This outcome indicates the possibility of spurious relationships potentially caused by other variables not present in the model (Cohen et al., 2003; Pedhazur, 1997).

Phase 2 mediator analysis. As stated previously, the sample size was not of sufficient size to warrant conducting this analysis. To do so would have yielded results that may have been highly unreliable.

Hypotheses Testing

In this section, the findings in relation to each hypothesis will be considered and detailed explanations of the results and implications for the organizational sciences are provided.

Hypothesis 1

First, we hypothesized that there would be differential effects between the humor conditions, and their effects on creative performance, independent of the transparency conditions. More specifically, generic and self-disparaging styles of humor delivery were each hypothesized to have more positive relationships with followers' creative performance than with the familiar other style, which elicits humor with someone else as a target, or the no humor condition.

MANCOVA did not reveal significant differences across the four humor conditions on the dependent variable of creative performance (Phase 1: F=.46,

p=.71; Phase 2: F=2.38, p=.11). Nor were differences found in the pairwise analyses. The means for each condition, in both phases, are presented in Table 20. In Phase 1, the mean differences were slight and are not in the hypothesized order. Although the Phase 2 means are presented, for descriptive purposes, mean comparisons were not conducted because an inadequate number of participants completed the performance task in this phase.

Insert Table 20 about here

Hypothesis 2

Followers' positive emotions were expected to have a positive relationship with their subsequent creative performance on a brainstorming task. Positive emotions, after accounting for the variance attributable to the independent and control variables, had a non-significant relationship with creative performance in Phase 1 (β = .17). The Phase 2 comparison was not made due to insufficient sample size on the creative performance task.

Hypothesis 3

In an extension of the previous discussion, the third hypothesis stated that positive emotions would partially mediate the relationship between leader humor delivery and follower creative performance. Bivariate and partial correlations were used in the mediator analysis and are presented in Figure 4 (Cohen et al., 2003; Pedhazur, 1997). The mediator analysis for Phase 2 was not conducted due to the extremely small response to the creative performance task (Phase 2: n=27).

As discussed in the *Mediator Analysis* section, above, the hypothesis that positive emotion mediates the humor delivery → creative performance relationship was not supported. There was no significant direct relationship between the two variables and after removing the effects of positive emotions there was no apparent difference between the indirect and direct effects.

Hypothesis 4

For this hypothesis, I posited that relational transparency would have a positive relationship with follower ratings of trust in the leader. Correlations between the variables revealed that this hypothesis was supported by the Phase 1 data. As revealed in Figure 4, the effect was statistically significant (β=.19; p=.04) after controlling for other variables.

Although the analyses involving creative performance could not be conducted with the Phase 2 data, enough participants completed the trust measure thus allowing exploration of the hypothesized relationship between relational transparency and trust, which was not found to be significant (β= -.19, n.s.).

Hypothesis 5

Higher levels of follower trust in the leader were hypothesized to have a positive relationship with follower creative performance outcomes. As in the previous hypotheses, the correlational data failed to support this assertion by revealing non-significant findings in Phase 1. Sample size restrictions prevented an analysis of Phase 2 data using these methods.

Hypothesis 6

Follower trust was hypothesized to partially and positively mediate the relationship between leader relational transparency and follower creative performance. As discussed in the *Mediator Analysis* section, above, the hypothesis that follower trust in the leader mediates the relational transparency → creative performance relationship was not supported by the Phase 1 data. Both direct and indirect effects of relational transparency on creative performance were slight and not statistically significant. The inclusion of trust in the direct relationship did not account for any variance in the direct relationship (see Figure 4). As in Hypothesis 3, this finding indicates a potentially spurious relationship in which another unspecified variable may be influencing the independent→ dependent variable relationship. Because very few participants completed the creative performance task, the Phase 2 analysis was not conducted.

Hypothesis 7

An assertion was made in the literature review that the leader's relational transparency would have a positive relationship with followers' positive emotions. This hypothesis was not supported in the Phase 1 data (β=.14, n.s.). Enough participants completed the Phase 2 positive emotions measure thus allowing an analysis of the data, however, no significant relationship was discovered (β=.02, n.s.).

Hypothesis 8

The final hypothesis stated that followers' levels of positive emotions would have a positive relationship with the followers' trust in the leader. This

hypothesis was supported in the Phase 1 findings (β = .19, p=.05) and is presented in Figure 4. No support for this hypothesis was found in the Phase 2 data (β= -.19, n.s.), which hosted an adequate number of respondents, thus allowing for analysis.

Supplemental Analyses

Wilcox (1998) asserted that the best tool for estimation cannot necessarily be determined before collecting and giving consideration to the data. Oftentimes the best tool depends upon the situation presented by the data. The data collected in this study is a prime example of the need to further explore potential effects that may be hidden within the data by employing tools that are more robust than traditional analytic procedures.

In this section, a series of supplemental analyses were applied to the data for the purpose of identifying possible explanations for the results yielded previously. Because these analyses are supplemental, the findings will be used only to augment the preceding discussion.

Reasons that the traditional, less robust methods did not yield the hypothesized results include the lower than expected overall response rate and the differential attrition rates in the various treatment conditions. Therefore, in the interest of building theory pertaining to the little studied constructs of humor and relational transparency, within the organizational sciences, we performed a series of analyses with different combinations of collapsed variables, which are discussed in the following sections. Only those revealing the best insights into the data will be reported.

For example, partial least squares (PLS) analysis is employed here. PLS is very appropriate for early stages of theory building, and is a helpful technique when sample sizes are small and does not require the restrictive assumptions of data distributions to estimate model parameters, observation independence, or variable metrics (Barclay, Higgins, & Thompson, 1995). Additionally, this method is preferable to other structural equation tools, such as LISREL, in that it does not require multivariate normality, interval scaled data, and large sample sizes (Kahai, Sosik, & Avolio, 1997).

This section begins with a discussion of participants' perceptions of leader transparency followed by that of the collapsed humor conditions. Next, a discussion of participant perceptions of leader behavior is offered. Fourth, MANCOVA was conducted using the collapsed conditions. This section is followed by a discussion of levels of analysis and then partial least squares analysis.

Perceptions of Relational Transparency

Because the relational transparency manipulations did not appear to function as designed, a logical analysis would be to examine the participants' perceptions of whether or not the leader was transparent rather than trying to rely upon the designed transparency conditions. In order to explore this notion, the manipulation check for relational transparency was analyzed for the purpose of exploring the effects of perceptions on the outcome variables. The results of the descriptive analyses led to a median-split of the relational transparency

manipulation check. The categorical variable was then employed as a factor in the supplemental analyses, discussed in the following sections.

Prior to dichotomizing the variable, we conducted descriptive statistics of the Phases 1 and 2 manipulation checks. If the continuous variables were normally distributed then our analysis strategy would be to analyze the data using the continuous variable of participant perceptions of relational transparency. We found, in both phases of the data, that the distributions were not normal. However, each phase was clearly bi-modal, with each mode falling on either side of both the median and the mean. The Phase 1 median value was 3.8 (*mean*=3.77) on a five-point scale. Twenty-seven of the 110 Phase 1 respondents rated the leader between 3.00-3.49 and 38 between 4.00-4.49. The Phase 2 median value was 3.80 (*mean*=3.70). Fourteen of the 70 respondents rated the leader 3.00-3.49 and 24 from 4.00-4.49.

Although these findings lend support for the use of the median-split, comparative analyses were conducted to determine whether or not dichotomizing the variable caused us to "lose" variance sufficient enough to explain relationships among the data beyond that explained by the dichotomous variable.

The findings of both analyses were nearly identical. In the Phase 1 model the continuous transparency perceptions variable was statistically significant for trust (F=3.97, p<.001) and positive emotions (F=3.06, p<.001). Like the categorical variable, it was not significant for creative performance (F=1.24, p=.23). Although no multivariate effect was found for humor, one was found for relational transparency (Wilks λ=.24, F=2.15, p<.001). The only main effect of

transparency was on trust (F=5.15, p<.001). The Phase 2 findings revealed similar effects. In light of these findings, the median-split relational transparency variable was considered in relation to the collapsed humor conditions and participants' perceptions of leader like behavior, discussed below.

In the original proposed analyses, the designed conditions of more and less transparent did not reveal the hypothesized differences on the outcome variables. Therefore, the rationale for using the categorical rather than the continuous variable was to explore the more versus less transparent perceptions in the same manner as the researcher-designed conditions were explored. The primary shortcoming of employing a median split is that much data contained in continuous variables is lost. However, as discussed previously, analyses using the categorical variable resulted in findings nearly identical to those using the continuous variable.

Collapsed Humor Conditions

Although significant differences in participants' perceptions of humor were discovered across the four humor conditions in the original design, not all of the pairwise relationships occurred in the hypothesized directions. One explanation for this is that the differences between the various conditions may have been too subtle. This may have been especially true for the familiar other- and generic other-disparaging conditions, both of which were designed to make fun of others, thus they were conceptually similar.

Therefore, the next step in attempting to explain the differences was to collapse the four humor conditions. The purpose of this was to collapse like

conditions into groups that would not only aid in discovering differences that may not have been revealed between the more subtle conditions, but would also increase the power of the analysis by increasing the cell sizes for the new groups.

The four humor conditions were collapsed in two different ways. The first was to combine the familiar other-disparaging and the generic other-disparaging conditions because both focused on directing humor at a target other than the leader. This new, combined group was compared to the self-disparaging humor and the no humor conditions. The second collapse of the humor conditions was to create a humor versus no humor comparison. Both are discussed as follows.

Collapsed humor, three conditions. Here, the four humor conditions were collapsed into three: (1) self-disparaging, (2) other-disparaging (including the familiar other and generic other-disparaging groups), and (3) no humor.

When the collapsed conditions were compared against the manipulation checks, the differences were not dissimilar to those found between the original four conditions. The findings for each item of the manipulation check are presented in Tables 21, 22 and 23. The ANCOVA findings are discussed in relation to each item. Phase 2 analyses were not conducted because of sample considerations arising from collapsing the conditions.

Item one asked if participants found the leader to be funny. In Phase 1 a main effect of humor was discovered (Phase 1: $F_{2, 93} = 4.19$, p=.02). Pairwise comparisons revealed differences between the self-disparaging and no humor conditions (mean difference .74, p=.01) and the other-disparaging and no humor conditions (mean difference .71, p=.01), as expected. The perceived transparency

conditions were expected to be significantly different from each other for this directional expectation, which they were ($F_{1, 93}$=2.90, p=.09). The mean difference between less and more transparent was -.35 (p=.09). Furthermore, there was a significant interaction effect ($F_{1, 93}$=2.83, p=.06).

Insert Table 21 about here

The second item of the humor manipulation check asked if participants found the leader to make fun of him- or herself. No main effects were found in the Phase 1 data for humor ($F_{2, 93}$=1.45, p=.24) or relational transparency ($F_{1, 93}$=1.54, p=.22). The interaction effect was non-significant ($F_{2, 95}$=.55, p=.58). This finding indicates that there were no significant differences in how the two forms of humor – self- and other-disparaging -- were perceived.

Insert Table 22 about here

The third item of the humor manipulation check asked if participants found the leader to make fun of others. Main effects were discovered in this directional significance test in the Phase 1 data for humor ($F_{2, 93}$=2.83, p=.06) and relational transparency ($F_{1, 93}$=2.91, p=.09). The other-disparaging treatment condition yielded a mean considerably larger than the self-disparaging and no humor conditions, respectively. Furthermore, leaders perceived as less transparent leader yielded higher means on this item than did leaders perceived as more transparent. No significant interaction effect was found ($F_{2, 93}$=.05, p=.95).

Insert Table 23 about here

Collapsed humor, two conditions. As discovered in the comparisons of the original four conditions, and the previous discussion of the collapsed conditions, the distinctions between self-, familiar other- and generic other-disparaging styles of humor delivery were slight, often non-significant and sometimes contrary to expectations. Therefore, we collapsed the humor conditions a second time which resulted in a two-condition factor. One condition included a combination of the three humor conditions compared to a no humor condition. ANCOVA was used to ascertain the existence of main effects and differences between the conditions.

Only item one of the humor perceptions manipulation check is considered here and the findings are presented in Table 24. Because all humor conditions were collapsed into one, the distinction between the humor conditions is not relevant to this analysis and thus the two other manipulation check items would not yield meaningful results. Due to sample considerations resulting from collapsing the conditions, Phase 2 analyses were not conducted.

Insert Table 24 about here

The item, which asked participants whether or not they found the leader to be funny, yielded a significant difference between the two humor conditions ($F_{1, 95}$=8.65, p=.01) with those participants in the humor condition rating this item higher, on average, than those participants in the no humor condition (mean difference .745, p=.004). No significant difference was found for perceptions of

relational transparency ($F_{1, 95}$=.304, p=.58). However, an interaction effect was found ($F_{1, 99}$=.5.11, p=.03) in which participants who perceived transparency in their leader also found the leader to be funnier, whereas the participants in the no humor condition did not.

Perceptions of Leader Behavior

Previously, we discussed the manipulation check of perceptions of leader behavior. Comparing means across the design, the data indicated that the less transparent leader was seen as more leader like than the more transparent leader under both the conditions of self-disparaging and generic styles of humor delivery. Leaders who employed no humor, under both transparency conditions, were perceived to behave less like a leader than those displaying humor.

To further explore perceptions of leadership behavior, two additional analyses were performed. First, the original four humor conditions, as designed, were compared with a median split of followers' perceptions of transparency. Additionally, the original treatment conditions were entered into the analyses as covariates. By doing this the effects of the experimental conditions were removed. As discussed above, transparency, like humor, is in the eye of the beholder. Therefore, a logical means by which to explore the effects of these variables is to look at them from the participants' perspective.

First, the four humor conditions in the original design were compared with the median split of participant perceptions of relational transparency. An ANCOVA was performed for the Phase 1 data. Due to sample size considerations

and the collapsing of conditions in the study design, Phase 2 analyses were not supported.

In Phase 1, leaders who were perceived as more transparent were also seen as displaying more leader like behavior than those perceived as less transparent ($F_{1, 95}$=12.38, p=.01), which was expected. This is opposite of the finding obtained when the original transparency conditions designed for the study were used. An implication of this finding is that leaders who were perceived as being more transparent were also perceived as being more leader like as measured by selected items from the MLQ. Because this was a directional significance test, a significant difference was found across the humor conditions ($F_{3, 91}$=2.54, p=.06). Specifically, all three humor conditions were each significantly different from the no humor condition (Self-disparaging: mean difference .66, p=.02; Other-disparaging: mean difference .62, p=.03; Generic: .81, p=.01). However, they were not found to be significantly different than each other. In other words, the leaders in the humor conditions were all seen as behaving more like a leader than that of the no humor condition. No significant interaction was discovered ($F_{3, 91}$=.86, p=.47). The means for these analyses are presented in Table 25.

Insert Table 25 about here

Second, the effects of the three-condition collapsed humor and the median-split relational transparency design were analyzed against the leader perceptions measure. An ANCOVA was performed for the Phase 1 data.

In Phase 1, significant differences were found across the collapsed humor conditions ($F_{2, 93} = 3.56$, p=.03). Subsequent pairwise comparisons revealed significant differences between the self-disparaging (mean difference .67, p=.02) and the collapsed other-disparaging conditions (mean difference .70, p=.01) and no humor. A significant difference was also found between the perceived transparency conditions ($F_{1, 95} = 7.81$, p=.01) with leaders perceived as more transparent also being perceived as acting more like a leader, which was expected. There was no significant interaction ($F_{2, 93}$=1.06, p=.35). The means for the Phase 1 analyses are presented in Table 26. Due to sample size considerations and the collapsing of conditions in the study design, Phase 2 analyses were not conducted.

Insert Table 26 about here

The third analysis of leadership perceptions was conducted using the two-condition humor model (e.g., humor vs. no humor) and the median-split relational transparency variable. The means for these analyses are presented in Table 27. Leaders perceived as being more transparent were also perceived as acting more like a leader ($F_{1, 95} = 4.73$, p=.03). A significant effect was also found across the humor conditions ($F_{1, 95} = 6.15$, p=.01) indicating that leaders who displayed humor, regardless of style, were also perceived as behaving in a more leader like fashion. As with the other iterations of the humor conditions the Phase 2 analyses were not conducted due to sample considerations. No significant interaction effect was discovered ($F_{1, 95}$=.76, p=.38).

Insert Table 27 about here

MANCOVA with Collapsed Humor Conditions and Perceptions of Transparency

In light of the previous work with the collapsed humor conditions and the transparency factor developed from the perceptions of transparency variable, a MANCOVA was conducted using these variables. The Phase 2 analyses on creative performance were not conducted because of insufficient sample size. However, the sample size did not preclude Phase 2 analyses with trust and positive emotions as dependent variables.

Overall, analyses with the original transparency design and collapsed humor conditions did not result in findings that were substantively different from those of the original, hypothesized analyses, for either of the three outcome variables. However, when the median-split transparency variable was employed, the findings differed from the original analyses.

When the three-condition, collapsed humor conditions and the median-split of perceptions of relational transparency were used as factors the overall Phase 1 MANCOVA was significant for both trust (F=4.50, p=.01) and positive emotions (F=3.93, p=.01). Leaders who were perceived as more transparent were rated more trustworthy and their participants indicated experiencing greater positive emotion. The effects were greater in the other-disparaging condition, followed by the self-disparaging and no humor conditions. Phase 1 creative performance was not significant (F=1.36, n.s.). The Phase 1 means and significance tests are presented in Tables 28 and 29.

Insert Tables 28 and 29 about here

Although these findings were nearly identical to those found in the original MANCOVA, a noteworthy difference is the main effect of relational transparency on participants' ratings of trust. In the researcher designed conditions, participants indicated that they had greater trust in the less transparent than in the more transparent leader. When the participants' perceptions of transparency were dichotomized and used as a factor, participants who perceived the leaders as more transparent also indicated higher levels of trust in them.

The Phase 2 analyses indicated a significant overall model for trust (F=4.93, p=.01), but not for positive emotions. A significant main effect was found across the perceptions of relational transparency (F=18.52, p=.01), but not across the humor conditions. In other words, those leaders perceived as more transparent elicited higher ratings of participants' trust than did those leaders perceived as less relationally transparent irrespective of humor style. The results of the Phase 2 MANCOVAs are presented in Tables 30 and 31.

Insert Tables 30 and 31 about here

When the two-factor, collapsed humor condition was entered into the overall MANCOVA, the Phase 1 results were very similar to those found in the three- and four-factor humor conditions. The overall model for trust was statistically significant (F=5.59, p<.01). Similarly, positive emotions was also significant (F=3.87, p=.01). Creative performance did not yield a significant

model. No main effects for either humor or perceptions of relational transparency were found on the three dependent variables. Tables 32 and 33 present the means and MANCOVA results.

Insert Tables 32 and 33 about here

In the Phase 2 analyses, only trust was significant overall (F=5.87, p=.01). No main effect for humor was discovered, but one was found for relational transparency on trust (F=10.42, p=.01). As in previous analyses, this reveals that participants who perceived their leaders as more relationally transparent also indicated higher levels of trust in them. The MANCOVA results are presented in Tables 34 and 35.

Insert Tables 34 and 35 about here

Levels of Analysis

In order to test whether or not the leader, and her or his characteristics, was similarly perceived by participants, a series of r_{wg} analyses were conducted (see James, Demaree, & Wolf, 1984). The purpose was to determine the homogeneity of response within each treatment condition as stratified by participant gender, years of teaching experience, the humor/non-humor conditions, and the two relational transparency conditions. These tests were conducted using two perceptions variables: leader behavior and relational transparency.

Across each set of perceptions, the r_{wg} analyses were similar for both men and women, thus indicating that, in this sample, groups of men perceived leader behavior in much the same way that women did. Regardless of whether the group was of men or women, and regardless of the perceptions measured, each group was homogenous in response with r_{wg} values higher than .80 in the case of perceptions of leader behavior (men=.89/women=.87) and relational transparency (men=.82/women=.82).

However, when the r_{wg} analyses were conducted with the groups defined by the treatment conditions the effects were smaller and more differential, especially across perceptions of transparency. When measuring leader behavior, the humor conditions were similar to each other (humor=.87/no humor=.92) as were the transparency conditions (more=.91/less=.82). When perceptions of transparency were measured the group differences were more marked. The humor condition was greater than the no humor condition (.84/.65) and more transparent was greater than the less transparent condition (.61/.39).

Practical significance was determined by converting the r_{wg} values to R_{wg} (Dansereau, Alutto, & Yammarino, 1984). These values are presented in Table 36. Practical within group significance was indicated by each R_{wg} value being equal to or greater than .27.

In light of these findings, we may be certain that, within the context of this study, men and women shared similar perceptions about leader behavior and the leader's relational transparency. The results were similar when the sample was stratified by years of teaching experience, which was categorized in increments of

five years. All r_{wg} values exceeded .70 and most were larger than .80. There were no apparent differences between the groups that would offer explanation as to whether or not there was an advantage to belonging to one group or the other. When the comparisons were made by experimental condition the differences between conditions were marked, although they were showed practical significance. The differences favored the humor and more transparency conditions, with values of less than .70 for both the no humor and less transparent conditions.

Insert Table 36 about here

Overall, these findings indicate that regardless of demographic grouping variable the members of each group did not vary considerably in their responses to the perceptions scales: leader behavior and relational transparency. However, when the humor and transparency treatment conditions were used as grouping variables, the differences between the groups were noteworthy and, statistically, indicated heterogeneity (e.g., values of less than .80) in both the no humor and less transparent conditions, when transparency was measured.

The primary implication of these findings is that when perceptions of transparency were measured the groups were notably different between the assigned transparency conditions, with the more transparent condition yielding significant values. This indicates that the transparency conditions in the experiment did not necessarily reflect the participants' perceptions of the leader's relational transparency and, arguably, did not influence these perceptions.

Although this is evident in the within group analyses, this was not the case in the MANCOVAs which yielded no significant differences across the humor conditions nor between the assigned transparency conditions.

Partial Least Squares Analysis

A primary limitation of this study, discussed more fully in Chapter 5, is that of small treatment group sizes and the likelihood that the large number of participants who dropped out of the study after Phase 1 did not do so in a random fashion. The imbalance may have resulted in changes in the dependent variables (Kerlinger & Lee, 2000).

A useful method of analyzing data, under these circumstances, is that of Partial Least Squares (PLS), which places less rigorous demands on measurement scales, sample size and residual distributions (Chin, 1998a). PLS is also useful when testing new models and new constructs (Chin & Newsted, 1999), such as relational transparency.

PLS, as predictor specification, is highly flexible and has distinct advantages relative to the maximum likelihood approach (Wold, 1975). The advantage of employing PLS is that both inner (substantive) and outer (measurement) models may be tested simultaneously. This allows researchers to consider the contributions of indicators of a measure as well as the contribution of variables to a model.

The analyses indicated that the introduction of the mediator variables resulted in slight changes in the hypothesized direct effects, using the Phase 1 data, but they were neither large nor statistically significant. Furthermore, there

was no evidence that any of the mediator variables significantly suppressed the direct effects of the independent variables on creative performance. Therefore, PLS was also used to study the within-cell mediator effects that could not be explored using traditional analyses techniques. PLS is not as sensitive to small samples as more traditional statistical methods (Sellin, 1986).

Path models for each phase of the analysis were constructed by the use of PLS Graph version 2.91. This software does not provide model fit information. In response to queries on this point, Chin (1998b) suggests that researchers should not rely solely on model fit, but should concentrate more on the predictability of the model and the structural paths and loadings of substantial strength versus simply looking at statistical significance. Therefore, pure reliance on model fit results is similar to shortcomings in relying too heavily on ANOVA, which has been criticized as ignoring effect sizes (see Cohen et al., 2003). Despite this, MPlus was employed to confirm that the model had been identified properly and that it fit the data. The log likelihood for this model (LL= -501.02) was lower than that of a fully saturated model (LL= -482.39) indicating that the specified model did not fit significantly worse than the full model. A log likelihood ratio test also indicated fit (χ^2 [6] = 2.712, p=.84).

Another metric for determining fit is the standardized interpretation of the Root Mean Square Residual (SRMR). Values equal to or less than 0.08 are considered good fit. The SRMR in this model was 0.02. The comparative fit index (CFI) is also useful. The CFI score was 1.00, revealing perfect fit. This means that fit due to the target model is a 100% improvement of that achieved by the best

possible, or saturated, model. The Root Mean Square Error of Approximation (RMSEA) is an absolute index measuring the degree of population misfit per degree of freedom. Values close to zero indicate better fit with ≤ 0.06 being a rule of thumb. RMSEA for this model was less than 0.001. The fit statistics may be combined to determine fit. For example, if SRMR ≤ 0.08 and either CFI ≥ 0.95 or RMSEA ≤ 0.06 then fit is confirmed.

Chin (1998a) suggested that standardized paths should have values of about 0.20, and ideally above 0.30, in order to be considered meaningful. Lower path values may result from multi-collinearity or some unknown collage of dispositional and environmental factors. Path values of less than .20 represent a one percent or lower explanation of variance. Therefore, even if the paths are statistically significant, in a traditional sense, the question remains whether or not the paths are interesting, in a theoretical sense.

Using the aforementioned criteria for evaluating the paths in the PLS model, and the information depicted in Figures 5 and 6, we will turn to a discussion of the model. In Phase 1, several of the paths exceeded .30, namely humor→positive emotions, positive emotions→creative performance, and positive emotions→trust, which were found to be statistically significant using the jackknifing technique of blindfolding. Several other paths fell between .15 and .29: humor→creative performance, trust→creative performance and the paths from transparency to trust and to creative performance. The value of the transparency→emotions path was very small. The Phase 2 relationships followed a similar trend, but all of its paths were near to or greater than .30 except for the

trust→creative performance linkage, which yielded a .05 path coefficient. Although the Phase 2 findings are largely supportive of the hypotheses, two of the paths appear to be spurious. Specifically, the linkages between each of humor and positive emotions with creative performance revealed standardized path coefficients near to, or in excess of 1.00. It is possible that other variables, not explored in this study, are at work in these relationships.

Following these analyses, a bootstrap was generated and the results from both the Phases 1 and 2 data were found to be statistically significant with *t*-tests confirming that many of the paths and nearly all of the indicators were representative and useful in the analyses (see Table 37). Follow up analyses in which the few non-significant indicators were removed from the model did not yield stronger or weaker effects in the model nor did the remaining indicators load more heavily in the absence of their co-indicators. Specifically, the humor appreciation (e.g., I like a good joke) and the propensity for creativity scales (e.g., I enjoy engaging in analytical thinking) were both used as pre-measures to control for participants' sense of humor and intrinsic motivation for creativity. Although individual item weights were not significant, their loadings on the latent variables were. Therefore, all indicators were left in the model because their inclusion was not apparently detrimental to the PLS analyses (Chin & Newsted, 1999).

Insert Table 37 about here

PLS also allowed us to generate statistics in order to assess the reliability and validity of the measures of the latent constructs. Specifically, PLS generates

factor loadings which can be interpreted as in principal-components analysis (Bookstein, 1986). The Phase 1 and 2 factor loadings are presented in Tables 39 and 40 respectively. Those factor loadings with a value of .7 or greater indicate that less than half of an item's variance is due to error (Sosik, Avolio, & Kahai, 1997). In both phases, all items met or exceeded the cut-off value. Composite scale reliabilities were assessed using the standard .7 cut-off. Additionally, the average variance was extracted by the variable from its items using the .5 or greater cut-off suggested by Fornell and Larcker (1981). All scales exceeded the cut-off criteria. The scale reliabilities and average extracted variance are also presented in Tables 38 and 39.

Insert Tables 38 and 39 about here

The convergent and discriminant validity of measurement items can be assessed using PLS in a manner similar to the multitrait/multimethod approach (cf. Howell & Avolio, 1993). The criterion commonly cited is that the construct represented by the items share more variance with its items that with other constructs in the model. Employing the same approach as Sosik et al. (1997), Table 40 displays the square root of the average variance shared by a variable with its items in bold. The elements in the column and row that the root average variance is displayed in should be smaller, thus indicating adequate convergent and discriminant validity. The results in this table support this notion. A second criterion is that no measurement item should load more highly on another

construct than it does on the construct it purports to measure. The results of Table 40 indicate that this criterion was also met.

Insert Table 40 about here

Although the discussion of results includes the findings of the analyses originally proposed for this study, we performed PLS analysis to explore patterns in the data that should be examined in future research. By employing PLS in the early stages of theory building we may uncover effects that may not be detected using traditional analysis techniques that may possibly be ignored in future research (Kahai et al., 1997). Future research with these constructs, using traditional statistical techniques and a larger sample size, may confirm our PLS findings.

Although the results of the Phases 1 and 2 PLS analyses are informative, and perhaps helpful for determining future research using these variables, they are purely exploratory and must be interpreted with caution in light of the lack of support found for many of the original hypotheses using the proposed statistical tools and methodology.

Chapter Summary

This chapter contained a discussion of the data analysis for this experimental study. Overall, the scales used in this study were found to be reliable. Beyond the reliability of the measurement component, analysis of the manipulation checks revealed that the transparency conditions did not elicit the effects as designed or as intended. Although the humor conditions were found to

be significantly different overall, subsequent pairwise comparisons did not in every case reveal the effects that the manipulations were designed to elicit.

The mediator analysis revealed that the two mediator hypotheses advanced in this study were not supported by the Phase 1 data. The Phase 2 response rate was low enough to preclude mediator analysis. The results of the various analyses provided limited support for only three of the eight hypotheses advanced in this model. One was the differential effects of humor style, which was partially supported. The second was the relationship between relational transparency and follower trust, between which a significant relationship was discovered, although not in the hypothesized direction. The third was that follower positive emotions would share a positive relationship with follower trust in the leader, which was also found to be significant only in the Phase 1 data.

In the light of the data restrictions resultant from attrition between phases one and two of the experiment, and missing data on the Phase 2 performance task, a number of additional analyses were conducted. These analyses consisted of collapsing the humor conditions in an effort to remove subtleties between the conditions; dichotomizing perceptions of transparency and entering the categorical variable in the analysis as a factor; an exploration of levels of analysis, and a partial least squares analysis that yielded results not attainable by the traditional, but less robust methods.

Collapsing the four original humor conditions to two- and three-condition models did yield significant differences overall and between the conditions on the manipulation checks, but did not offer additional explanation in the MANCOVAs.

A more useful discovery occurred after the data was explored using a median-split of the relational transparency as perceived by the participants. The rationale for doing so is that transparency, like humor and leadership, is in the eye of the beholder. Within the context of this study it was supposed that perceptions of transparency may have had a greater effect on outcomes than did the designed conditions. Mean differences in perceptions of leader behavior, when factored by perceived transparency, revealed that those leaders who were perceived as more transparent were also perceived as acting more leader like. Furthermore, leaders perceived as more transparent also engendered greater trust from the participants.

An analysis of within group variance did not reveal significant differences between men and women or by years of experience. PLS analysis revealed reasonably acceptable path coefficients for the various relationships hypothesized in the model, thus indicating that more robust techniques might reveal effects not apparent to more traditional methods that rely heavily on strict statistical assumptions. These additional findings, while helpful for the design of future studies to explore these ephemeral independent variables, should not be construed as a primary explanation of what occurred in this study. In the next chapter, these findings are discussed more fully and within the realm of supporting literature and the context of leadership in organizations.

CHAPTER FIVE

DISCUSSION AND IMPLICATIONS

Review of the Purpose of the Study

The purpose of this study was to explore several variables of interest in the emerging study of authentic leadership. These variables included the independent variables of leader relational transparency and leader style of humor delivery, and the proximal outcomes of follower positive emotions and follower trust in the leader. The independent variables were hypothesized to have differential effects on the proximal outcomes of positive emotions and trust and on the distal outcome of performance on a creative task. Trust and positive emotions were also hypothesized to have a positive mediating influence between the independent variables and the performance outcome.

This chapter begins with an interpretation of the results of the study. This interpretation contains a discussion of the findings of the proposed analyses as well as a presentation of how the *post hoc* analyses addressed some of the study's limitations. This is followed by a discussion of the study's limitations, recommendations for future research and concluding comments.

Discussion of the Results of the Study

In Chapter One, several basic research questions were offered. In this study, we have attempted to address those research questions and their related hypotheses. First, can leaders use humor to foster positive performance outcomes? Second, will positive emotions intervene to account for variance in the humor→ performance relationship? Third, will leaders who are more transparent enhance

performance outcomes? Fourth, will trust intervene to account for variance in the transparency→ performance relationship? Fifth, will a follower affect have a mediating effect on the relationship between a leader's relational transparency and followers' trust in the leader? Lastly, will positive emotions intervene to account for variance in the transparency→performance relationship?

Through the analyses we found only limited support for three of the hypotheses advanced in the study. The *post hoc* supplemental analyses revealed support for these as well as several other of the hypotheses, the discussion of which is presented below.

Hypothesis Testing

In this section, the findings for each hypothesis are interpreted. Within the discussion of each hypothesis, both the hypothesis testing and supplemental analyses are contrasted to provide continuity for the discussion. As stated previously, several of the hypotheses were not supported in the initial data analyses. However, the supplemental analyses and findings helped in explaining what may have been occurring within the data. Table 41 offers a comparison of the findings, by method, in relation to each hypothesis advanced in the study.

Insert Table 41 about here.

The general lack of support for many of the hypotheses may be attributable to a small sample size in relation to the number of conditions in the study design, thus affecting statistical power, and possible shortcomings in the effectiveness of the researcher designed manipulations. Despite these limitations,

the data were found to be normal, random, and representative of their population. While the high percentage of missing data, particularly in Phase 2, may have detracted from our findings, no outliers were discovered during data cleaning and thus no data transformation occurred. With this normal dataset, we are confident that the findings are reasonably trustworthy, under the circumstances.

Following the analyses, PLS, among other analytic techniques, was employed to explore the various hypotheses in an attempt to understand the data more fully. Exploratory methods, like PLS, are often some of the first steps taken by organization and psychology scholars in an attempt to explore ephemeral variables and under conditions that traditional, assumption-stringent methods are not as robust (Wilcox, 1998). This may be especially true when considering such variables as perceptions of leadership, humor and relational transparency.

Hypothesis 1. The initial hypothesis stated that the humor styles would have differential effects on the outcome variables. Humor has been found to influence emotions (Isen, 1987; Moore & Isen, 1990; Thorson et al., 1997) and creativity (Ashkanasy, 2004; Fredrickson & Joiner, 2002). More specifically, the generic and self-disparaging styles of humor delivery were each expected to have more positive relationships with followers' creative performance than would the familiar other-disparaging style or the no humor conditions. In light of the evidence, it is apparent that this hypothesis was partially supported by the data, although not without caveat.

Significant differences were found in the Phase 1 manipulation checks of each of the various humor conditions and the no humor condition. These findings

were supported by analysis using both the four original humor conditions and the collapsed conditions. Despite the finding that humor versus no humor was successfully manipulated, the differential effects between the various types of humor did not always occur as designed, regardless of analysis.

For example, in the analysis of the Phase 1 data the self-disparaging humor condition had higher means than the other conditions, which was expected. Furthermore, the familiar other-disparaging and generic humor conditions were found to be more indicative of making fun of others, which was expected. Despite this, not all of the differences were statistically significant and some were in directions that were not expected. Furthermore, although the manipulation checks revealed that the humor conditions were, in part, successful, MANCOVA did not reveal significant differences across the four humor conditions when Phase 1 creative performance was specified as the outcome.

In the supplemental analyses, the humor conditions were collapsed in order to remove subtleties between them. The first of the two collapsed versions of the humor styles consisted of the original self-disparaging and no humor conditions and a combination of the familiar other- and generic other-disparaging conditions. The combination of these two conditions was made because differential effects between them were not significantly different nor in the expected directions. Both involved making fun of someone other than the leader, therefore they were conceptually similar. Each humor condition was found to be significantly different from the no humor condition, but not from each other. By further collapsing the conditions into humor and no humor we confirmed that

participants found the leader in the humor condition to be funnier than the leader in the no humor condition. In Phase 2 the manipulations did not appear to function as designed. The non-significant findings in Phase 2 may have been the result of the ineffectiveness of some of the manipulations, a very small response rate, or both. Another possible explanation is that the three forms of humor were of a disparaging nature (e.g., self-, familiar other-, and generic other-disparaging). Gruner (1997) would categorize these as different forms of superiority, or conative, humor through which a joke is funny because it has a target. Had the manipulations simply compared humor with no humor or a conceptually different theory of humor (e.g., superiority vs. incongruity) differences between the conditions may have been discovered.

The differential effects of humor did not operate as designed, in either phase. However, the humor conditions were definitely perceived as funnier than the no humor condition regardless of how the conditions were organized in the analyses. This informs us that the manipulation of humor occurred.

Hypothesis 2. Participants' positive emotions were hypothesized to have a positive relationship with their subsequent creative performance on a brainstorming task (Fredrickson, 1998; Isen, 1993; Isen et al., 1985). After accounting for the variance attributable to the independent and control variables, participants' self-reported ratings of positive emotions had a non-significant relationship with creative performance in Phase 1. The Phase 2 comparison was not made due to insufficient sample size on the creative performance task.

When PLS was employed we found what Chin (1998a) would call substantive, or potentially significant, relationships between positive emotions and creative performance in both the Phase 1 and Phase 2 datasets, which would support existing empirical research on this relationship, as stated above.

Although the supplemental findings were in support of this hypothesis they should be considered only in light of the non-supportive findings of the hypotheses and not as a fully alternative explanation of the hypothesized relationship. However, there is considerable existing research to support these findings, and thus reinforce the utility of latent variable analyses in the exploration of effects in samples that do not meet traditional statistical assumptions (Chin, 1998b). For example, Fredrickson (1998, 2001) has argued that positive emotions enlarge the cognitive context and thus broaden a person's thought-action repertoire resulting in more innovative solutions.

Hypothesis 3. Positive emotions were hypothesized to mediate the effect of leader humor style on creative performance. The relationships within the proposed mediation model had adequate support from the psychology literature (Humke & Schaefer, 1996; Isen et al., 1987), although no evidence of this pure mediation effect was found in previously published literature.

Bivariate and partial correlations were used to explore the proposed mediator effect, but no significant relationships were found between these variables in the Phase 1 data. There was no significant direct relationship between the two variables after removing the effects of positive emotions. A plausible explanation might be the existence of another, unspecified variable that

influenced this relationship (Cohen et al., 2003). The Phase 2 mediator analysis was not conducted due to insufficient response to the performance task.

PLS analyses appeared to support the mediator hypothesis in both phases of data collection. Substantive, possibly significant, relationships were discovered between humor and positive emotions and between positive emotions and creative performance. The direct and indirect effects also differed somewhat with the introduction of the mediator indicating that positive emotions may have had a partial mediator effect.

Although these findings lend support to this hypothesis the small response to the creative performance task, in both phases, and the clearly non-supportive findings gives us pause in our interpretations. However, as mentioned in the Hypothesis 2 discussion, and formally offered in the literature review, the extant research on the relationships between humor, affect and creativity support the various linkages offered in the mediation model. The fact that the traditional analyses did not yield the hypothesized effects should not dampen the results of the supplemental analyses, but suggest future methodologies for exploring these relationships.

Hypothesis 4. The initial analyses yielded a significant correlation between the leader's relational transparency and follower trust in the Phase 1 data only. The Phase 2 data did not yield a significant effect on this relationship. A MANCOVA revealed a significant main effect for relational transparency when trust was the outcome variable. However, the relationship was inverse to that hypothesized: participants indicated less trust for the leader depicted in the more

transparent treatment condition than did the participants in the less transparent condition. This finding was contrary to the effects designed into the manipulations.

Because of this inverse finding, and little extant research of the transparency construct, a set of *post hoc*, supplemental analyses were embarked upon in an attempt to discover why or how a less transparent leader could elicit higher trust in him or her from participants. Therefore the manipulation check for transparency was employed as a factor in these analyses. The purpose was to ascertain if participants' perceptions of the leader's transparency would elicit the expected outcomes on the dependent variables.

During the supplemental analysis, participants' perceptions of transparency were dichotomized using the median-split and contrasted with participants' perceptions of leadership. The median-split was found to be no less explanatory than the original, continuous variable in measuring perceptions of relational transparency. The result of this analysis indicated that leaders who were perceived as being more transparent were also perceived as exhibiting higher levels of leadership behavior. Subsequently, MANCOVAs for Phases 1 and 2 were conducted. The discovery was that leaders perceived as more relationally transparent were also found to elicit higher ratings of participants' trust.

This was found to be the case in the Phase 1 data when the original four humor conditions, and the collapsed three-condition version, were entered into the model. The effect was not found when the two-condition humor variable was employed. In the Phase 2 data, a main effect for transparency was found only

when the two versions of the collapsed humor conditions were employed. These findings support our notion that relational transparency, like leadership, may be more evident in the eye of the beholder, at least within the context of this study, and that more relationally transparent leaders are also more trusted by their followers, as hypothesized.

The design did not elicit the transparency effects that had been built into it. One possible explanation is that the designed conditions were not operationalized properly, despite the contribution of considerable expert opinion. Another explanation is that relational transparency in the context of public schools requires a different operational definition than in a business setting.

Within the context of this study, in which the leader-follower relationship is a short-term interaction depicted on the web, it may be less important how transparently a leader behaves than it is how transparent followers perceive him or her to be. In fact, Erickson (1995) asserted that authenticity, of which the relational is a theoretical component (Kernis, 2003), is less about whether or not a person is authentic or in authentic, but more about the conditions and context in which it occurs.

Furthermore, authentic leadership development scholars contend that genuine transparency may be sustainable over the long-term (Gardner et al., 2005). Despite the evidence that perceptions of transparency may be more powerful in the short-term, these perceptions could be manipulated in the short-term via self-presentation tactics (Tedeschi & Norman, 1985) or manipulated across contexts (Kacmar & Carlson, 1999). This behavior may possibly be

explained by participants' propensity to self-monitor (Snyder, 1979; Snyder & Gangestad, 1986) and pick up on cues in the social context that openness and transparency are important and behave accordingly.

Hypothesis 5. Higher levels of follower trust in the leader were hypothesized to have a positive relationship with follower creative performance outcomes. Bivariate and partial correlations did not reveal a positive or significant relationship between trust and creative performance. Sample size restrictions prevented an analysis of Phase 2 data using traditional methods.

The PLS analysis revealed positive, but weak relationships between trust and creative performance in both phases of the data, therefore the relationship between trust and creative performance remained unsupported by the data. This was one of the posited relationships that received the least amount of support in this study. Trust is a willingness to be vulnerable to others (Mayer et al., 1995; Meyerson, Weick, & Kramer, 1996). It was this risk component of trust that was the hypothesized linkage between trust in the leader and creative performance. In other words, people who are less risk averse tend to be more creative than those who are more risk adverse (Amabile, Goldfarb, & Brackenfield, 1990). In taking this risk, the potential for creativity is greater. However, the findings of this study did not support this notion. A possible explanation is that the participants did not experience a high level of risk. They were remote users in a web-based study in which they had no connection with or obligation to the virtual leader and were thus not compelled to creativity by their supposed willingness to be vulnerable.

Hypothesis 6. We suggested that follower trust would partially and positively mediate the relationship between leader relational transparency and follower creative performance. The traditional methods did not reveal that trust had a mediator effect between relational transparency and creative performance. This hypothesis was not supported by the Phase 1 data. The relationship was not explored in the Phase 2 data because of a lower than adequate response to the creative performance task.

Although the *post hoc* analyses offered possible support for the mediator relationship in Hypothesis 3, PLS did not support the hypothesis that trust was a mediator. The relationship between trust and performance, in Phase 1, was not substantive, or potentially significant by PLS criteria (Chin, 1998a). However, the Phase 2 path loading was substantive, albeit only marginally so. This was the only finding in which the Phase 2 data supported a hypothesis that the Phase 1 data did not. A possible explanation for this finding is that trust may have manifested over the two phases of the study in those conditions in which the leader was perceived to be more than less relationally transparent. However, as presented in Chapter 4, repeated measures analysis did not reveal significant differences in the outcome variables over time. If in future research the manifestation of outcomes over time is found to be adequately supported, this would contribute to the growing leadership development literature.

Possible avenues for additional work might include interventions comprised of trigger events that aid in leadership development during one's life course (Avolio, 2003; Mumford & Manley, 2003). It has been suggested that

relational transparency, and its parent construct of authentic leadership, are more likely to be developed, and will manifest themselves in positive outcomes, over time (Gardner et al., 2005). In other words, when faced with moral decisions or dilemmas in the workplace a relationally transparent leader will behave consistently. For example, if a leader behaves in a relationally transparent manner, when faced with moral decisions and dilemmas, and this behavior is consistent over time, then followers may be more likely to see the leader as truly relationally transparent. Therefore, it stands to reason that by using designed or natural trigger events to challenge leaders to behave authentically we can not only develop the authentic leadership potential of a leader, but also elicit positive follower outcomes such as trust, positive emotions and creative performance.

The weak relationships found between trust and creative performance in Phase 1 did not meet important criterion for establishing a mediator effect. However, some support was found for this hypothesis in the Phase 2 data. The relationship between the mediator and the dependent variables must be significant, among other criteria, in order for mediation to occur (Baron & Kenny, 1986). This was the case in the Phase 2 data when PLS analysis was used. Between this and the small, possibly non-significant, direct relationship between relational transparency and creative performance, this hypothesis remains unsupported by the Phase 1 data, regardless of analysis employed, and only partially supported by the Phase 2 data.

Hypothesis 7. The leader's relational transparency was hypothesized to have a positive relationship with followers' positive emotions. Open and honest

communications (Ekvall, 1996) and relational transparency (Gardner et al., 2005) have been suggested as means by which affect may be positively influenced. However, no significant correlations were found between the two variables using the Phase 1 data, nor was a main effect for transparency discovered in the MANCOVA when positive emotions was the outcome variable. Enough participants completed the Phase 2 positive emotions measure to support this analysis, but no significant relationship was discovered.

This relationship was not supported in either phase when participants' perceptions of transparency were used as the independent variable. Furthermore, PLS analysis revealed a virtually non-existent relationship between these variables. Regardless of analytic technique, or operationalization of relational transparency, this hypothesis was not supported by the initial hypothesis testing or supplemental findings.

The issues involved with the operationalization of transparency, and the short-term nature of the experiment, may explain why this relationship did not occur. The latter is offered with the knowledge that Fredrickson (2002) asserted that emotions can be influenced in the short-term. However, it is important to emphasize that when perceptions of transparency were entered into the model, the relationship between relational transparency and positive emotions was not manifest.

Although web-based interventions have been found to be effective for learning and development, provided that narrative, discourse and relevance are inclusive factors (Hill, Douglas, Gordon, & Pighin, 2003), a short, web-based

interaction with a leader may not be adequate to elicit a reaction of emotion in a participant, especially from public school teachers nearing the end of their school year and in a discussion of the emotionally charged topic of bullying of students in the classroom. Like authenticity, the effects of relational transparency may manifest themselves over the long-term, a condition that was not designed into this study (Gardner et al., 2005).

This conclusion was foreshadowed in work by Avolio and colleagues (Kahai et al., 1997, 2003; Sosik et al., 1997; Sosik et al., 1998) in their study of leadership effects as mediated by electronic meeting systems. Common limitations in all four studies are similar to those of this study. First, the manipulations were somewhat weak in that their leaders were not members of the groups, but were simply facilitators who had no prior interaction with the group nor had credibility with research participants. This may be mitigated in future research by using intact organizational groups to study the effects of leadership over a period of time longer than that of the typical experiment. Second, the content of the studies (e.g., ethical dilemmas, school bullying, etc.) may not generalize to other groups. Third, the short time period of the various studies may not have been adequate for the expected outcomes to become manifest.

Furthermore, Sosik et al. (1998) noted that in using computer mediated discussion there is a loss of nonverbal behaviors and status and position cues. These are not only important to leadership, but also to communicating humor and its socially contagious effect (Provine, 2000), which would have affected how

funny the cartoons and comments were and possibly the positive effects on creative behavior.

Hypothesis 8. The eighth and final hypothesis stated that followers' levels of positive emotions would have a positive relationship with the followers' trust in the leader. This hypothesis was supported by a significant correlation found in the Phase 1 data. The Phase 2 data did not support this hypothesis.

When PLS was employed to study the relationship between these two variables, both the Phase 1 and 2 data supported a positive and substantive, or strong and possibly significant, relationship between the two variables. The Phase 1 path coefficient was acceptable by PLS standards (Chin, 1998a) and the 68 participants completing the Phase 2 data yielded sufficient results to establish an acceptable path between these two variables. One implication of this finding is that if leaders can elicit positive emotions in their followers, through relational transparency and an appropriate humor style, there may possibly be a positive influence on participants' trust in the leader. Conversely, by engendering higher trust in the leader, followers may experience higher levels of positive emotions, a notion similar to that offered by Jones and George (1998).

Conclusions

In light of the above discussion there are three primary conclusions that can be drawn from study. First, the humor and the relational transparency manipulations did not always have the predicted effects on the dependent variables of trust, positive emotions and creative performance because the various

manipulations were only subtly different, or perhaps not fully operationally defined, as evidenced in the analysis of the manipulation checks.

Although support for some of the hypothesized effects was found it is necessary to step back and explore how differing humor styles and the construct of relational transparency can be operationalized more effectively to capture their subtle differences in future experimental research. A possible future research strategy might involve matching participants of like perceptions of both humor and relational transparency and further exploring the nature of perceptions on the manifestation of outcomes (Kerlinger & Lee, 2000).

The second conclusion that can be drawn is that trust played a critical role in contributing to the discoveries made in this study. In support of Hypothesis 4, a positive and statistically significant relationship was discovered between participants' ratings of trust and perceptions of the leader's relational transparency, which supports Avolio's (2005) assertion that today's leaders must be more transparent in order to elicit and sustain their followers' trust. Furthermore, participants' self-reported ratings of positive emotions and ratings of trust in the leader also shared a positive and statistically significant relationship (Hypothesis 8). The Phase 1 finding in support of this hypothesis also bolsters the assertions of Jones and George (1998) and Frijda (1988) that emotions can influence a person's experience of trust.

Third, although limited support was found for only three of the eight hypotheses advanced in this study, the results of the supplemental analyses will be helpful in designing future research endeavors of a similar nature. This study has

served as a valuable training ground for not only future study of these variables, but also in the use of technology to deliver leadership manipulations.

Before we conclude that relational transparency and humor do not elicit the effects hypothesized here, at least in relation to their operational definition and subsequent design, it is necessary to address the limitations of this study, which may inform researchers who attempt to replicate this study.

Limitations and Future Research

As mentioned previously, only three of the hypotheses advanced in this study were partially supported, excluding the supplemental findings. The non-supportive findings may be explained by several limitations, which are instructive in how to approach the effects of humor and relational transparency in future research.

The foremost limitation is the possibility that the manipulations were not as effective as they were intended to be, which would yield results that may not have been fully interpretable within the context of this study. Sample size, missing data, contextual factors affecting participant motivation, lack of external validity, and the difficulty of studying humor and transparency are also offered as potential limitations.

Effectiveness of the Manipulations

As we found during the analyses, differences between the various humor conditions were very subtle, and perhaps too much so to discover significant differential effects on the outcome variables. Furthermore, although great care was taken in designing the conditions of relational transparency, we found that

this construct appeared to exist primarily in the eyes of the participants. Although perceptions were found to be informative this does not mean than relational transparency cannot be operationalized or that alternative manipulations cannot be designed to capture this construct.

Leading scholars in the area of authentic leadership development (Avolio, 2005; Gardner et al., 2005) suggest that authentic leadership, of which relational transparency is a component, manifests itself over time through an unfailing demonstration of genuine behavior. Therefore, interventions of longer duration may be necessary to observe the manifestation of a construct such as relational transparency. Robust longitudinal data analytic techniques are available to researchers for the purpose of modeling growth, such as latent growth models, nested hierarchical designs and structural equation modeling (Singer & Willett, 2003).

This experiment exposed participants to transparent behavior on two brief occasions separated by one week. It is unlikely that transparent behavior under these circumstances would sustain participants' perceptions of authenticity. Perhaps, in the short term, followers' perceptions of transparency and authenticity offer explanation of their trust in the leader and positive emotions.

Pilot Study

In the design and implementation of this study the intention was to conduct a pilot study to test the effectiveness of the manipulations. However, the context of the study – public schools – and the time requirements involved in developing the experimental materials required that we proceed with the main

study while the participants were still available and prior to their summer breaks. Future research endeavors with public school systems should be structured so that participants are approached at the beginning of the school year for the purpose of pilot testing manipulations. There may then be sufficient time to revise the manipulations as appropriate and recruit a sample for a primary study.

Sample Size

For adequate power, and to employ traditional statistical tools, at least 50 participants should have been randomly assigned to each treatment condition (Cohen, 1988). However, in most cases, each condition hosted fewer than 20 respondents. Coupled with the fact that only about half of the respondents returned to complete the second part of the study, few of the Phase 2 analyses were conducted and for those that were, the resultant findings should be interpreted with caution. For example, slightly more than two dozen participants completed the Phase 2 performance task.

Despite a very low overall response rate (7.5%) from the population we approached, the data met the various statistical assumptions (cf. Tabachnick & Fidell, 2001). Nonetheless, the analyses lacked sufficient power to detect differences across treatments, even using small sample methods (Hoyle, 1999). However, analyses via PLS aided in overcoming the shortcoming of small samples and contributed to the discussion of the data findings. In light of the fact that PLS may have revealed findings not discoverable using more traditional methods, PLS and other structural equation models should be considered in future research of these constructs (Day & O'Connor, 2003; Wilcox, 1998).

An argument may be offered that unless the manipulations were fully effective a larger sample may not have resulted in support for these hypotheses. The fact that small and non-significant mean differences were discovered between the conditions explains, in part, why the relational transparency manipulations were not effective on any of the three outcome variables. The discovery that those leaders who were perceived as more transparent were also rated as being more trustworthy, and in some instances as eliciting higher positive emotions, suggests that the perspective of the follower is critical in the operationalization of relational transparency. In addition to the previous assertion, the small number of participants who completed the creative task in the two phases may also explain the lack of findings. Other plausible explanations include the demanding nature of the creative performance task, or perhaps the theoretical argument for the hypothesized effects.

Missing Data

Missing data may have also offered a considerable problem. Despite the normality and randomness of the data, the high percentage of missing values may account for why no effects were discovered in some of the analyses (Tabachnick & Fidell, 2001). Many participants neglected to complete the creative task. The reasons for this are unknown because participants often completed the self-report and manipulation check items that were presented before and after the creative performance task, but not the task itself. It was for this reason that the treatment group sizes were so small on the creative performance task, especially in Phase 2.

Although about 70 of the 150 Phase 1 participants returned to complete Phase 2, only 27 engaged in the performance task.

A possible explanation for this is that the task may have appeared more difficult or required more cognitive expenditure to complete it than some of the participants were motivated to invest in the study. Whereas self-report measures required a response to a predetermined set of answers (e.g., strongly agree versus strongly disagree) the creative performance task required the formation of a written opinion on a broad subject.

Participants' Motivation

Kerlinger and Lee (2000) suggested that participants who self-select (e.g., volunteer) into a study may be more motivated to participate in the study. A threat to the internal validity of this study is selection (cf. Campbell & Stanley, 1963). The reason we believe that this may be true is that the participants' were employed as public school teachers. The participants who responded to the solicitation may not have been fully motivated in that they were trying to conclude their responsibilities for their school year during which their time was employed not only in educating youths, but also devoted, in some cases, to other research projects conducted by the University of Nebraska and also by the Nebraska Department of Education.

Presumably, many participants may have been "going through the motions" at that point. This may have affected their responses to the self-report data thus compromising the integrity of the trust and positive emotions scales and also affected their performance on the creative task. Also, participants who might

have responded to a one-shot study may have declined involvement when faced with a two-phase study late in the school year. An autumn presentation is likely to have been more effective, especially if recruitment efforts were conducted in person.

Nature of the Creative Performance Task

Another limitation may have been the nature of the creative task, which may explain why participants did not complete it. The creativity task was a brainstorming exercise, designed by the researcher, which was based upon a short vignette the participants were to have read and responded to. The participants' responses were rated by two independent graders who used a creativity measure employed by Jaussi and Dionne (2003). Presumably, a brainstorming, creative task would have required more cognitive effort than a survey measure and would thus be more difficult to accomplish than would the completion of a series of multiple choice items. If participation motivation is truly a limitation in this study then it may explain why the task was not completed by many participants and also, perhaps, why the effects of the manipulations on this task were not more effective.

Lack of External Validity

Another limitation of this study involves a lack of generalizability, which means how much we can generalize the results of this study to other participants or groups (Kerlinger & Lee, 2000). This is also referred to as representativeness, or external validity (Cook & Campbell, 1979). Campbell and Stanley (1963) offer four threats to external validity, one of which is most relevant to this discussion:

the interaction effects of selection biases and the independent variable. For example, researchers who confine their sample recruitment to a restricted population may have difficulty generalizing their findings to participants from other unique populations.

The sample was drawn from a population of public school teachers who self-selected into the study. Each participant was randomly assigned to one of the eight treatment conditions. Despite the benefits of random assignment, which is offered as a method by which to mitigate threats to internal validity (Cowles, 1989), the population is not necessarily representative of the working population at large and any results are only truly relevant within the context from which they were solicited. Having said this, the potential deficiencies of the manipulations possibly minimized many useful findings, within the context of public education that may have resulted from this study.

The Challenges of Operationalizing Humor

Finally, even a cursory review of the literature reveals that studying humor is challenging at best (Duncan et al., 1999; Roeckelein, 2002). Despite the extensive pilot tests on the cartoons and subject matter expert opinions solicited for the treatment conditions, the manipulations were found not to function fully as expected. However, before making any definitive statements concerning the effects of a leader's style of humor delivery on follower emotions, trust and performance outcomes, these relationships must be considered and studied further. This may be accomplished by using a simpler study design that explores the differences between humor and no humor or by making more of a distinction

between the different types of humor. Also, the experiment may be presented in a social context, in which humor responses have been found to most often occur (Provine, 2000). Alternatively, the effects of each predictor variable could be studied independently of the other. Once the validity of each construct has been established then more complex differential effects may be studied with confidence.

Summary of Limitations

In summary, it is difficult to assert whether or not the non-supportive findings are attributable to weaknesses in the theoretical argument or in the study's design. The small sample size may be one explanation for the non-supportive findings. Mean differences were found between the humor conditions that indicated that some, but not all, of the manipulations functioned as intended. Therefore, the lack of effectiveness in the manipulations may also have contributed to the non-supportive results. For the transparency conditions, no evidence was found to support the effectiveness of the designed manipulations, but followers' perceptions were found to elicit the hypothesized effects under a variety of conditions.

Future Research

The next step in this research stream requires three separate, but equal actions. First, the conditions must be redesigned and the study simplified. Specifically, the humor conditions must be simplified into humor and no humor conditions and compared to more and less transparent conditions (e.g., a 2 X 2 study design). The nuances of the different types of humor were too subtle for

exploration in this study. However, the various analyses using the collapsed humor conditions revealed that humor was manipulated, but its effects may have been diffused across the various conditions. The pure effects of humor must be replicated before studying different types of humor. Furthermore, the transparency conditions must be designed to better elicit perceptions of transparency as well as the trust, emotions and positive outcomes. This will likely require a longer interaction period rather than a change in the designed manipulations. Furthermore, as stated above, relational transparency is more likely to be evident in a leader's consistency. By introducing inconsistency of behavior into the less transparent conditions, over time, the difference between the conditions is expected to be more marked. Therefore, a three or four wave intervention and data collection may reveal the expected effects.

Second, despite evidence offered in the literature review, humor must be manipulated in a more powerful manner than by using visual images on a website. There are a variety of methods of doing so (e.g., humorous videos, etc.), but regardless of the method used to elicit a humorous response (i.e., laughter) it would be more effective in an interactive environment than on the web. Humor is not only ephemeral, but manifests itself more fully in a social setting (Provine, 2000).

Conversely, web-based interventions allow researchers to reach more potential respondents, including working adults in a variety of work environments. Therefore, the web-based approach is paramount to attaining a sample whose results will generalize across groups within a population. In order

to merge the need for a more powerful humor manipulation, yet do so in the isolative nature of a web-based study, we must be creative in delivering the interventions. One way in which this can be accomplished is by employing a more complex technical design. Specifically, a design that allows participants to observe the leader in a speaker-audience interaction in which the leader uses cartoons and jokes will simulate the social context of humor elicitation. Additionally, the respondent could observe the leader's non-verbal and paralinguistic cues that often elicit humorous responses. Another option available to us is the inclusion of a laugh track, which would further induce humorous outcomes. Provine (1992) found evidence of the effectiveness of the laugh track in eliciting perceptions of humor in social contexts.

Third, because the effects of gender and gender perceptions yielded informative findings in this study, the next experiment should be designed to study the differential effects of humor and relational transparency on men and women. This can be done by matching participants into treatment conditions to ensure that an equal number of men and women are in each group. Alternatively, the design could be a three-way factorial in which gender comprises the third independent variable in the study. At some point, we should also consider how humor and transparency are received by participants when the leader is a man or a woman. This would be a logical third study in this research stream.

By refining the experimental conditions delivered to participants and simplifying the study design, eliciting humor "live" and in a group setting, and considering the differential effects by gender, we will be in a position to better

explain the effects of the independent variables on the outcomes of trust, positive emotions and relational transparency.

Implications for Research and Practice

Humor and relational transparency are not only emerging research topics in the organization sciences (Avolio et al., 2004; Cooper, in press), but are also very difficult to study as is evidenced here. Both are ephemeral, highly context-driven and the effects of each often reside in the eye of the beholder. The fact that the manipulations employed in this study were not as effective as they were intended is testimony to their ephemeral nature.

Significant mean differences were discovered across, and in some cases between, the Phase 1 humor conditions. However, the relational transparency manipulations, regardless of phase, and the Phase 2 humor manipulations, were not found to differ significantly. Therefore, the manipulations were not completely effective within the context of this study. We found, however, that if participants' perceptions of leader transparency were dichotomized and entered as factors, significant findings could then be discovered in MANCOVA.

The essence of this discussion is based upon the study's context, which was a fully web-mediated study with middle American public school teachers. The interactions between participant and the virtual leader were brief and occurred twice, separated by a week. In a short term interaction with little face-to-face contact, such as occurred in this study, perceptions of transparency may offer more explanation than genuine transparency. A longer intervention in which the participants become more familiar with the leader and in which the manipulations

could be designed to demonstrate authentic behavior over a longer time period might have yielded different results.

As discussed in Chapter 4, the work of Avolio and colleagues (Kahai et al., 1997, 2003; Sosik et al., 1997; Sosik et al., 1998) in their study of leadership in computer mediated contexts is instructive in comparison to the limitations of this study. Leadership manipulations are likely to be more effective when the leader of a group of research participants is a group member and involved in a project over time than in the traditional short-term duration of research or the limited social interaction of web-based interactions. Longer term interventions can allow the leader to establish credibility with participants and also, within the context of this study, elicit trust. One downside to longer interventions, though, is the effect of group history (Sosik et al., 1997).

Duncan et al. (1990) warned against the difficulty of studying humor despite empirical findings that humor can make a difference in leader→follower relationships (cf. Avolio et al., 1999). Similarly, relational transparency is an emerging construct. This construct may rely greatly on a person's implicit theory of openness and transparency (Gardner et al., 2005). Therefore, it is possible that expressed transparency may be confused with similar constructs such as message content and volume of information shared. Furthermore, these findings may have also been influenced by the level of leader transparency that the participants typically experience in the course of their work.

Care must be taken, not only in the study of humor and relational transparency, but also in their application to the workplace. However, this study

has offered some insight to the study of these constructs. Fiedler (1996) said that leadership is a highly contextual construct, such that leaders, followers and situations interact, under his theory, to comprise leadership. The work context "serves as a catalyst for both leadership and development (Day & O'Connor, 2003, pp. 12). Furthermore, with regard to authenticity, Erickson (1995) said that the primary question is under what conditions and context does authenticity occur?

Although the construct of relational transparency has not been extensively studied, the construct of humor has been, although not frequently in the context of work organizations (Roeckelein, 2002). The study of humor within the organization sciences is limited, but some research has been conducted in which context may have mattered. For example, Lennox-Terrion and Ashforth (2002) found that a form of humor resembling the familiar other-disparaging style employed here was an effective means of building the cohesiveness of temporary groups of law enforcement personnel, provided certain rules were observed (e.g., cannot make fun of one's mother). Also, Vinton (1989) found that various styles of humor appeared to add brevity to manager-follower relationships in a manufacturing setting. Avolio et al. (1999) discovered that humor enhanced the effectiveness of followers of leaders who were rated as more transformational within the context of the insurance services industry.

As evidenced by the above studies, a reasonable assumption is that humor can be effective across many different contexts, but nevertheless may be moderated by the context in which it is embedded and observed. Provine (2000)

suggested, based upon a decade of neurobiological research, that mirth is inherent but is also universal across age, gender, and culture. This study revealed some support for the differential effects of humor in the context of public education, but it did not reliably contribute to performance outcomes. A possible explanation for this is the topic presented to the teachers: bullying in public schools. This topic was selected because it is of considerable and growing interest to public school teachers (Newman-Carlson, & Horne, 2004). Because of this we believed that teachers would be more likely to engage in an experiment in which an issue important to them was the topic of the study. This very reason for eliciting teachers' engagement may explain why humor did not have the expected effects.

School bullying is a topic that elicits considerable passion in many people working in public education (cf. Murphy, 2004), and especially among the teacher population from which this sample was solicited (Reznicek, Nelson, & Kuskie, 2004/2005). Bullying behavior ranges from name calling and ostracism to escalating violence up to and including school shootings (Olweus, 2003). The fact that such a topic is presented in a pseudo-humorous manner may not have resonated appropriately with some of the respondents.

All participants were asked to indicate whether or not they found the leader to be funny and why. One participant stated "I don't think you should make fun of bullying...it's a serious matter." One other participant made a similar comment in response to the Phase 1 creative performance task: "Practice what you preach...what's so funny about [sic] bulling?" Although only two participants overtly commented on the inappropriateness of merging humor with the

emotionally laden bullying topic, we must presume that other participants may have felt the same way. Although there is little evidence to support it, this may be one explanation as to why only a few respondents completed the creative performance task in either phase.

Taking into consideration these comments and the topic presented to the teachers during the study we can assert that perhaps occupational *context* is not as important a consideration as is the *content* of the performance activity. If the topic was something less emotionally driven, such as building more schools or the national teacher shortage, the effects of the humor conditions may possibly have been more easily teased from the data.

Conclusion

When the sea was calm,
all ships alike
Showed mastership in floating.
--William Shakespeare

According to Plato (in the dialogue *Philebus*), laughter is directed at those who violate the precept "Know thyself!" provided that they are weak and innocuous (Berlyne, 1969). However, here we propose that humor can be the essence of knowing oneself and sharing one's authentic self, transparently.

In this study our goal was to provide evidence to help eliminate the doggerel and puerile attributed to the study of humor as well as to contribute to the growing research literature regarding authenticity in leader-follower relationships. Here, we proposed positive effects of a leader's delivery of humor on follower positive emotions, such as joy, contentment and interest. The same leader's relational transparency, an important component of authenticity and

authentic leadership, was hypothesized to influence followers' positive emotions as well as their trust in the leader. Positive emotions and trust were offered as important mediators in the relationships between humor delivery and transparency, respectively, on followers' creative performance.

Authentic leaders are key role models for establishing transparency in leader-follower relationships (Avolio et al., 2004). Furthermore, authentic leaders are expected to demonstrate, through their words and deeds, the importance of transparency, but can do so with a sense of humor that emphasizes precisely what he or she is saying (Kahn, 1989; Vinton, 1989). Potential outcomes of this delivery include the proximal outcomes of positive emotions and trust, but also the more distal outcome of creative performance.

Despite theoretical and empirical support for generating the hypotheses advanced in this study, as discussed at length in the literature review, traditional statistical analyses generally did not support these relationships in the current research for the range of potential reasons mentioned above. *Post hoc* analyses such as PLS aided in the exploration and discovery of the hypothesized effects. The most critical finding is that participants' perceptions of a leader's transparency were manifest in a variety of outcomes.

Three of the hypotheses advanced in this study were supported by the data: (1) some differential effects of the humor styles were discovered; (2) a positive relationship between relational transparency and trust was discovered, and (3) the positive relationship between follower positive emotions and follower trust in the leader, the latter two which support conceptualizations of these

relationships by other scholars and as offered in the literature review. The remaining hypotheses were not supported by the original design and after considering the possibility that the manipulations may have not functioned as intended we cannot even speculate about potential outcomes had there have been significant effects. Supplemental, *post hoc* analyses were employed and a number of helpful discoveries were made.

Future research efforts on the relationships hypothesized herein will likely be more effective if special attention is given to the limitations discussed in this study (i.e., operational definition, sample size, multiple phase response rates, etc.). Furthermore, this study may be considered as a pilot study and the results used to refine the manipulations and proceed with a follow up study. Under these circumstances, a more thorough investigation of the ephemeral constructs of humor and relational transparency can be conducted and its findings explored.

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FIGURES

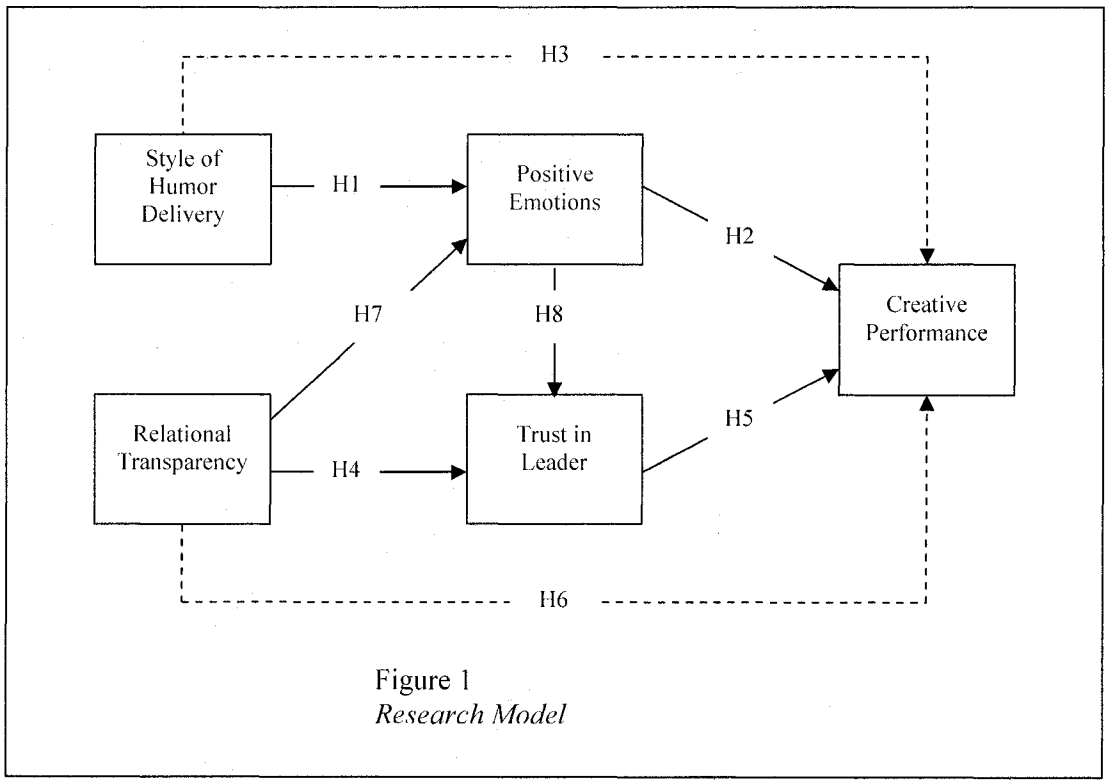


Figure 1
Research Model

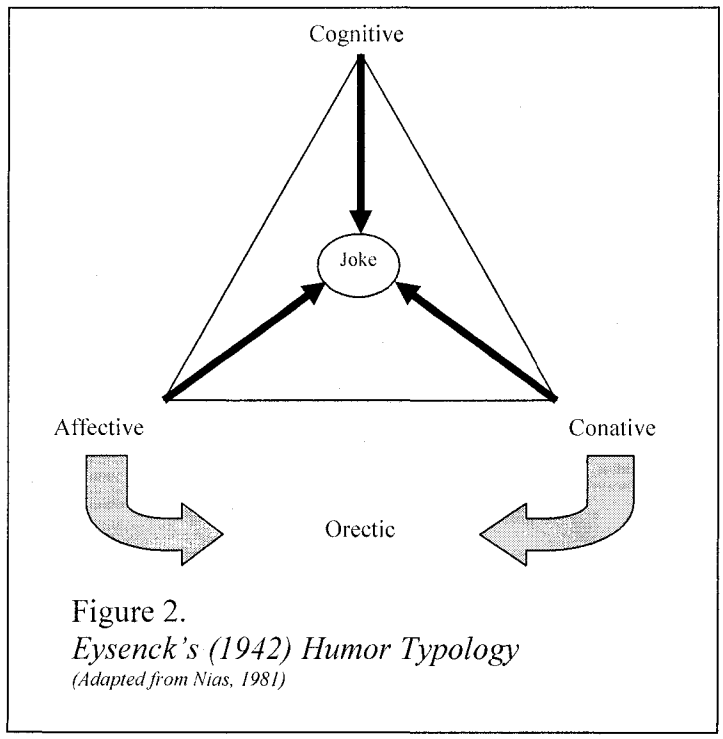


Figure 2.
Eysenck's (1942) Humor Typology
(Adapted from Nias, 1981)

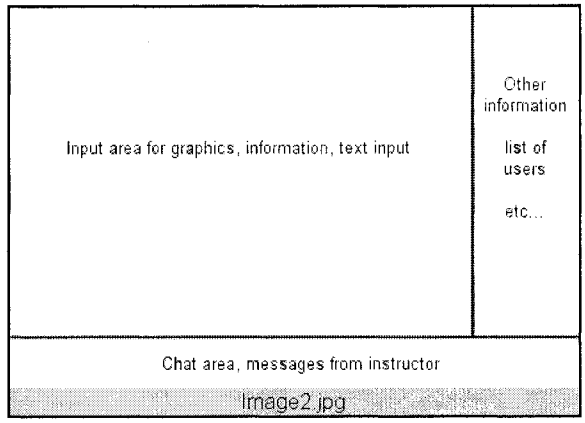


Figure 3.
Screen Interface for Creative Activities

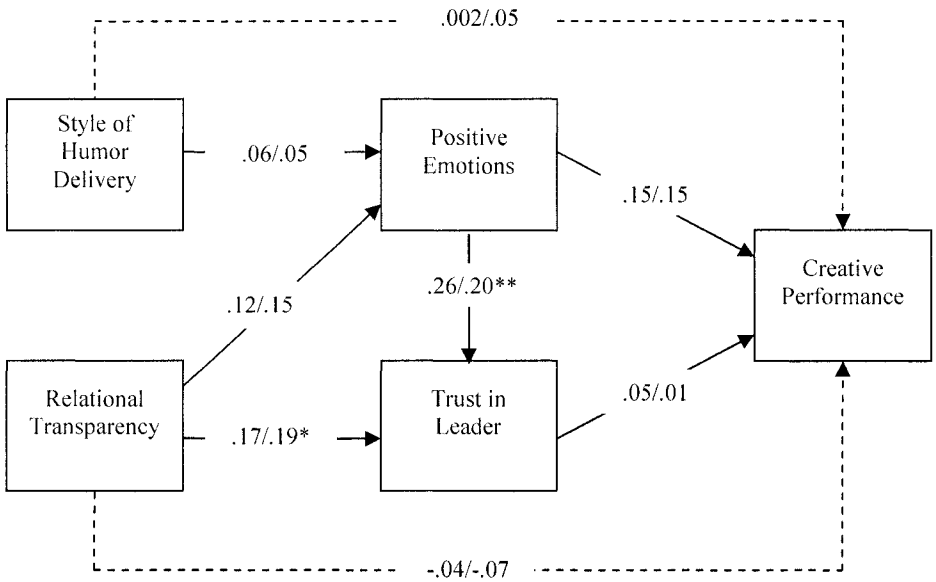


Figure 4.
Phase 1 Research Model with zero-order and partial correlations

* p=.04
**p=.03

Figure 5.

Partial Least Squares Estimation, Phase 1

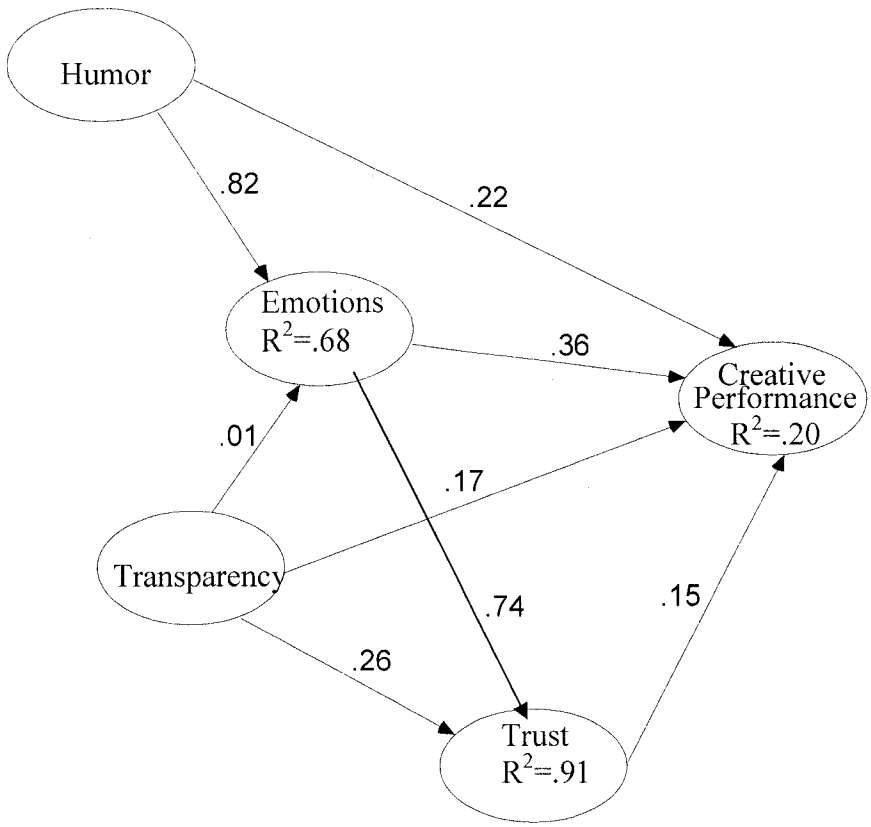
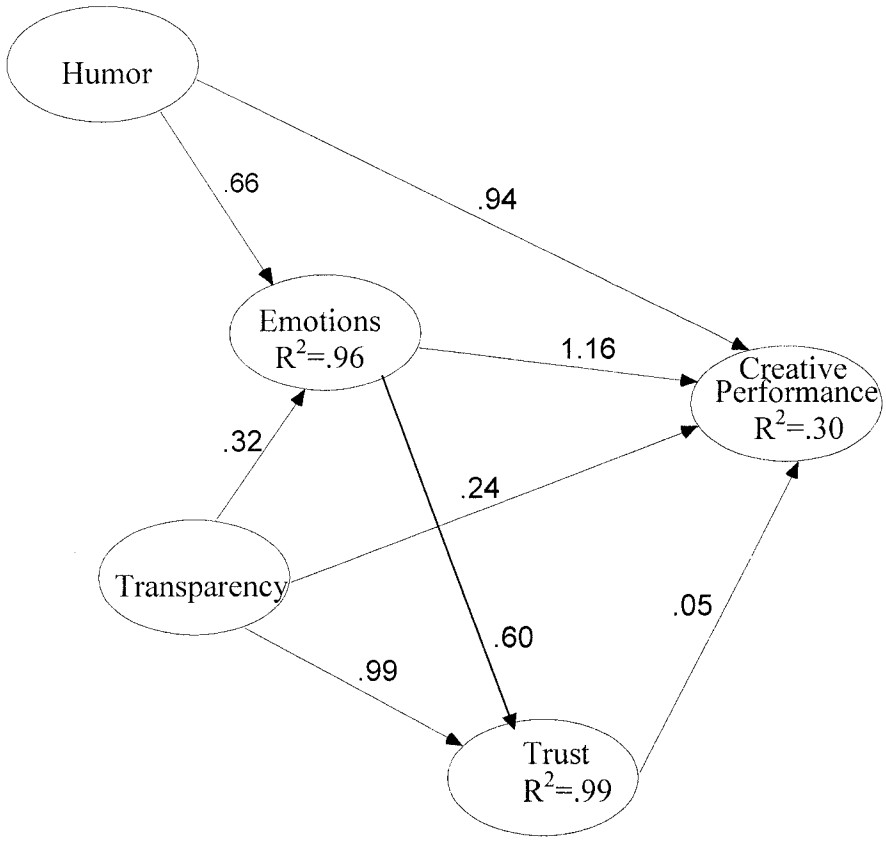


Figure 6.

Partial Least Squares Estimation, Phase 2



TABLES

Table 1
Modern Typologies of Humor Theories

Eysenck (1942)	Raskin (1985)	Lefcourt & Martin (1986)
Affective	Psychoanalytical	Arousal
Cognitive	Cognitive-perceptual	Incongruity
Conative	Social-behavioral	Superiority
Orectic		

Table 2
Treatment Variables on Creative Performance

	Phase 1		Phase 2	
Relational Transparency --->	More	Less	More	Less
Self-Disparaging Humor	n = 19	n = 19	n = 6	n = 2
Familiar-Other-Disparaging Humor	n = 21	n = 15	n = 4	n = 5
Generic-Other-Disparaging Humor	n = 15	n = 14	n = 5	n = 4
No Humor Condition	n = 10	n = 8	n = 1	n = 0

Table 3
Demographic Variables

	Phase 1					Phase 2				
Variable	*N*	*Mean*	*SD*	*Min.*	*Max.*	*N*	*Mean*	*SD*	*Min.*	*Max.*
Age	148	33.56	12.43	23	62	71	30.89	11.63	24	62
Gender	148	0.62	0.49	0	1	71	.46	.50	0	1
Education	147	3.67	1.41	1	7	71	3.27	1.39	1	6
Marital status	144	0.61	0.64	0	3	71	.58	.77	0	3
Ethnicity	146	0.20	0.94	0	5	71	.27	1.06	0	5
Position	101	1.17	1.27	0	6	40	1.15	1.61	0	6
Total years in teaching	97	12.59	10.19	1	38	38	11.32	9.78	1	33
Years in current position	97	5.57	5.91	1	31	38	3.63	4.31	1	26
School size (students)	95	1988.35	2454.80	150	8000	39	1119.28	1478.36	150	6000

Note. In Phase 1, female = 92 and male = 56. In Phase 2, female = 33 and male = 38.

Table 4

Phase 1 Descriptive statistics, correlations, and alpha coefficients

Variables	*N*	*M*	*SD*	*1*	*2*	*3*	*4*	*5*
Intrinsic Motivation for Creativity	148.00	4.27	0.65	***0.84***				
Humor Appreciation	148.00	4.52	0.59	0.23 **	***0.83***			
Follower Trust in Leader	120.00	4.67	0.86	0.22 *	0.08	***0.92***		
Follower Positive Emotions	122.00	3.53	0.86	0.34 **	0.14	0.26 **	***0.92***	
Creative Performance, Phase 1	123.00	2.83	0.77	0.10	-0.05	0.04	0.15	***0.92***

Note. Main diagonal represents reliability ratings.

* p<=.05.

** p<=.01.

Table 5

Phase 2 Descriptive statistics, correlations, and alpha coefficients

Variables	*N*	*M*	*SD*	*1*	*2*	*3*	*4*	*5*
Intrinsic motivation for creativity	148.00	4.27	0.65	***0.84***				
Humor appreciation	148.00	4.52	0.59	0.23 **	***0.83***			
Trust, Phase 2	71.00	4.62	0.99	0.22	-0.02	***0.95***		
Positive emotions, Phase 2	71.00	3.38	0.76	0.10	-0.04	-0.15	***0.89***	
Creative performance, Phase 2	27.00	2.91	0.88	0.33	-0.21	-0.15	0.02	***0.92***

Note: Main diagonal consists of scale reliabilities.

*p<=.05.

**p<=.01.

Table 6
Reliabilities for the Organizational Trust Inventory

		Phase 1	Phase 2
	Overall scale	0.92	0.95
	Affect items	0.87	0.89
	Cognitive items	0.84	0.92
Direction of Trust	Dimension One: Keeps commitments	0.88	0.91
	Dimension Two: Negotiates honestly	0.86	0.90
	Dimension Three: Avoids taking excessive advantage	0.73	0.81

Table 7
Phases 1 and 2 Leader Behavior Manipulation Check

		Phase 1		Phase 2	
Humor	Relational Transparency	*M*	*SD*	*M*	*SD*
Self-disparaging	More	5.49	0.22	5.33	0.26
	Less	5.68	0.23	5.04	0.36
Familiar other-disparaging	More	5.39	0.23	5.71	0.30
	Less	5.37	0.28	5.44	0.34
Generic other-disparaging	More	5.22	0.28	5.15	0.33
	Less	5.79	0.29	5.61	0.37
No Humor	More	4.89	0.32	5.10	0.53
	Less	4.93	0.37	5.19	0.65

Note. Significance testing revealed no main effects at $p<.05$.

Table 8

Phases 1 and 2 Humor Manipulation Check. Item #1: Did you find the leader funny?

		Phase 1		Phase 2	
Humor	Relational Transparency	*M*	*SD*	*M*	*SD*
Self-disparaging	More	3.70	0.20	3.43	0.24
	Less	3.13	0.29	2.98	0.40
Familiar other-disparaging	More	3.25	0.20	2.86	0.23
	Less	2.72	0.34	2.90	0.36
Generic other-disparaging	More	3.79	0.25	3.65	0.24
	Less	3.05	0.38	3.61	0.42
No Humor	More	2.89	0.30	2.27	0.39
	Less	1.75	0.56	1.46	0.57

Note. A significant main effect was found for Phase 1 humor at $p<.001$.

Table 9

Phases 1 and 2 Humor Manipulation Check. Item #2: Did the leader make fun of him/herself?

		Phase 1		Phase 2	
Humor	Relational Transparency	*M*	*SD*	*M*	*SD*
Self-disparaging	More	3.50	0.22	2.61	0.30
	Less	3.34	0.27	3.22	0.42
Familiar other-disparaging	More	2.91	0.22	2.92	0.35
	Less	3.02	0.26	2.74	0.38
Generic other-disparaging	More	3.63	0.28	2.83	0.39
	Less	3.20	0.27	3.05	0.44
No Humor	More	2.77	0.33	1.50	0.59
	Less	2.81	0.43	1.50	0.60

Note. A significant main effect was found for Phase 1 humor at p=.05.

Table 10

Phase 1 and 2 Humor Manipulation Check. Item #3: Did the leader make fun of others?

		Phase 1		Phase 2	
Humor	Relational Transparency	*M*	*SD*	*M*	*SD*
Self-disparaging	More	3.50	0.22	2.61	0.30
	Less	3.34	0.27	3.22	0.42
Familiar other-disparaging	More	2.91	0.22	2.92	0.35
	Less	3.02	0.26	2.74	0.38
Generic other-disparaging	More	3.63	0.28	2.83	0.39
	Less	3.20	0.27	3.05	0.44
No Humor	More	2.77	0.33	1.50	0.59
	Less	2.81	0.43	1.50	0.60

Note. A significant main effect was found for Phase 1 humor at $p<.05$ and Phase 2 humor at $p<.05$.

Table 11
Phases 1 and 2 Transparency Manipulation Check

		Phase 1		Phase 2	
Humor	Relational Transparency	*M*	*SD*	*M*	*SD*
Self-disparaging	More	3.87	0.13	3.65	0.19
	Less	3.79	0.16	3.68	0.27
Familiar other-disparaging	More	3.71	0.13	3.91	0.23
	Less	3.78	0.16	3.70	0.24
Generic other-disparaging	More	3.64	0.17	3.48	0.24
	Less	3.83	0.17	4.09	0.27
No Humor	More	3.84	0.20	3.90	0.38
	Less	3.60	0.24	2.95	0.38

Note. Significance testing revealed no main effects at $p<.05$.

Table 12
Frequencies: Phases 1 and 2 Task Relevance Measure

Response	Freq.	Percent	Valid Percent	Cum. Percent	Freq.	Percent	Valid Percent	Cum. Percent
Not very much	14	9.33	12.28	12.28	8	5.33	11.43	11.43
To a lesser extent	12	8.00	10.53	22.81	7	4.66	10.00	21.43
Neutral	30	20.00	26.32	49.12	7	4.66	10.00	31.43
To a greater extent	48	32.00	42.11	91.23	40	26.66	57.14	88.57
To a great extent	10	6.66	8.77	100.00	8	5.33	11.43	100.00
Total	114	76.00	100.00		70	46.66	100.00	
Missing	36	24.00			80	53.33		
Total	150	100.00			150	100.00		

Table 13

Descriptive Statistics: Phases 1 and 2 Relevance and Observation of Context

Variable	*N*	*M*	*SD*	*1*	*2*	*3*	*4*
Relevance, Phase 1	114	3.25	1.15	1.00			
Observation, Phase 1	114	1.67	.47	.022	1.00		
Relevance, Phase 2	70	3.47	1.18	.61**	-.04	1.00	
Observation, Phase 2	71	1.70	.46	.09	53**	.05	1.00

** $p < 0.01$.

Table 14

Phases 1 and 2 Gender Perceptions

Dependent Variable	Participant Gender	Perceived Gender	Phase 1		Phase 2	
			M	*SE*	*M*	*SE*
Creative Performance	Male	Male	2.88	0.17	3.21	0.22
		Female	3.51	0.21	1.53	0.42
	Female	Male	2.74	0.39	2.88	0.28
		Female	*	*	3.45	0.49
Trust	Male	Male	4.21	0.17	5.40	0.22
		Female	4.10	0.45	3.42	0.90
	Female	Male	4.86	0.39	4.66	0.28
		Female	*	*	5.67	1.05
Positive Emotions	Male	Male	3.29	0.16	3.24	0.21
		Female	2.81	0.16	3.60	0.32
	Female	Male	4.47	0.38	3.57	0.27
		Female	*	*	2.84	0.37

Notes. No significant main effects were found for participant gender or the perceptions of the leader's gender.

* Cell size inadequate to calculate means.

Table 15

Paired sample correlations and t-tests

	M	*Mean Difference*	*SD*	*r*	*t*	*df*
Trust, Phase 1	4.67	0.03	0.88	0.45***	0.29	68
Trust, Phase 2	4.64		0.99			
Positive Emotions, Phase 1	3.51	0.12	0.82	0.54***	1.27	68
Positive Emotions, Phase 2	3.39		0.76			
Creative Performance, Phase 1	2.94	0.03	0.66	0.48*	0.22	26
Creative Performance, Phase 2	2.91		0.88			
Humor, post-Phase 1	3.13	0.38	0.76	0.43***	3.25**	65
Humor, post-Phase 2	2.75		0.98			
Transparency post-Phase 1	3.73	-0.02	0.62	0.48***	-0.23	65
Transparency post-Phase 2	3.75		0.73			
Leader perceptions, post-Phase 1	5.54	0.19	0.96	0.46***	1.53	68
Leader perceptions, post-Phase 2	5.36		0.99			

* p<.05.

** p<.01.

*** p<.001

Table 16

Means and Standard Errors on the Dependent Variables for the Treatment Groups, Phase 1

		Trust *		Positive Emotions		Creative Performance	
Humor	Relational Transparency	*M*	*SE*	*M*	*SE*	*M*	*SE*
Self-disparaging	More	4.59	0.19	3.68	0.17	2.91	0.17
	Less	4.89	0.19	3.51	0.17	2.84	0.17
Familiar other	More	4.74	0.19	3.11	0.17	2.44	0.17
	Less	4.93	0.24	3.55	0.22	2.93	0.22
Generic	More	4.27	0.23	3.38	0.20	2.97	0.21
	Less	4.71	0.25	3.84	0.22	2.59	0.23
No humor	More	4.14	0.33	3.52	0.29	3.04	0.30
	Less	4.85	0.42	3.52	0.37	2.99	0.38

Note. The multivariate model was significant for both trust ($p<=.05$) and positive emotions ($p<=.01$).
* A main effect for transparency was found for trust ($p=.03$).

Table 17

Summary of Multivariate Analysis of Covariance on Phase 1 Dependent Variables

	Covariate Analysis		
	F	*β*	*t*
Trust			
Task relevance	3.20	0.14	1.79
Observation of study context	0.32	-0.11	-0.57
Motivation for creativity	9.21	0.39*	3.03
Age	7.48	-0.02	-2.73
Gender	1.98	0.24	1.41
Positive Emotions			
Task relevance	8.35	0.20*	2.89
Observation of context	4.51	-0.37*	-2.12
Motivation for creativity	27.52	0.60	5.25
Age	0.45	0.00	-0.67
Gender	0.11	-0.05	-0.34
Creative Performance			
Task relevance	0.31	-0.04	-0.56
Observation of context	0.74	0.15	0.86
Motivation for creativity	2.30	0.18	1.52
Age	0.02	0.00	-0.15
Gender	3.79	0.30	1.95

	Main and Interaction Effects			
Dependent Variable	Multivariate F	Univariate F	η^2	*Observed Power*
Trust	2.45*			
Humor		0.97	0.03	0.26
Relational Transparency		4.76*	0.05	0.58
Humor x Transparency		0.28	0.01	0.10
Positive Emotions	4.58**			
Humor		0.91	0.01	0.20
Relational Transparency		0.02	0.03	0.24
Humor x Transparency		1.30	0.04	0.34
Creative Performance	1.33			
Humor		0.61	0.02	0.17
Relational Transparency		0.01	0.00	0.05
Humor x Transparency		1.58	0.05	0.40

* *p=.05;* ** *p=.01*

Table 18
Means and Standard Errors on the Dependent Variables for the Treatment Groups, Phase 2

		Trust		Positive Emotions	
		M	*SE*	*M*	*SE*
Self-disparaging	More Transparent	4.71	0.27	3.52	0.18
	Less Transparent	4.49	0.37	3.36	0.26
Familiar other	More Transparent	5.16	0.32	3.18	0.22
	Less Transparent	4.39	0.36	2.88	0.25
Generic	More Transparent	4.41	0.34	3.46	0.23
	Less Transparent	4.31	0.38	3.88	0.26
No humor	More Transparent	4.97	0.52	3.26	0.35
	Less Transparent	4.44	0.58	3.42	0.40

Note. All multivariate and univariate main effects were non-significant at p<=.05.

Table 19

Summary of Multivariate Analysis of Covariance on Phase 2 Dependent Variables

	Covariate Analysis		
	F	*β*	*t*
Trust			
Task relevance	1.00	0.13	1.00
Observation of context	0.18	0.14	0.42
Motivation for creativity	1.37	0.27	1.17
Age	0.03*	0.00	-0.18
Gender	0.02*	0.04	0.15
Positive Emotions			
Task relevance	1.25	0.10	1.12
Observation of context	9.80*	0.73	3.13
Motivation for creativity	0.34	0.09	0.58
Age	8.98*	0.03	3.00
Gender	1.36	0.21	1.17

	Main and Interaction Effects			
Dependent Variable	Multivariate F	Univariate F	η^2	*Observed Power*
Trust	0.82			
Humor		0.52	0.03	0.15
Relational Transparency		2.27	0.04	0.32
Humor x Transparency		0.36	0.02	0.12
Positive Emotions	2.15*			
Humor		2.58	0.12	0.61
Relational Transparency		0.02	0.00	0.05
Humor x Transparency		0.83	0.04	0.22

* *p=.05; ** p=.01*

Table 20

Phases 1 and 2 Mean Differences on Creative Performance

		Phase 1		Phase 2	
Humor	Relational Transparency	*M*	*SD*	*M*	*SD*
Self-disparaging	More	2.91	0.18	3.06	0.35
	Less	2.79	0.18	2.11	0.60
Familiar other-disparaging	More	2.53	0.18	1.09	0.63
	Less	2.90	0.21	3.58	0.35
Generic other-disparaging	More	3.05	0.21	3.21	0.35
	Less	2.47	0.23	3.84	0.46
No Humor	More	3.00	0.31	2.24	0.86
	Less	3.02	0.38	*	2.24

Note. Significance testing revealed no main effects at p<.05.

Table 21

Phase 1 Item #1 Humor Manipulation Check for the Three-factor Humor and Transparency Median-split Model

		Phase 1	
Humor	Relational Transparency	*M*	*SD*
Self-disparaging	More	3.89	0.19
	Less	3.05	0.25
Other-disparaging	More	3.80	0.17
	Less	3.10	0.15
No Humor	More	2.50	0.28
	Less	2.97	0.38

Note. Directional significance testing revealed a main effect for humor at p=.02; transparency at p=.09 and an interaction effect at p=.06.

Table 22

Phase 1 Item #2 Humor Manipulation Check for the Three-factor Humor and Transparency Median-split Model

		Phase 1	
Humor	Relational Transparency	*M*	*SD*
Self-disparaging	More	3.60	0.21
	Less	3.04	0.28
Other-disparaging	More	3.49	0.19
	Less	3.06	0.17
No Humor	More	2.75	0.31
	Less	2.87	0.43

Note. Directional significance testing revealed no main effects at $p=.10$.

Table 23

Phase 1 Item #3 Humor Manipulation Check for the Three-factor Humor and Transparency Median-split Model

Humor Condition	Relational Transparency	*M*	*SD*
Self-disparaging	More	2.15	0.23
	Less	2.65	0.30
Other-disparaging	More	2.70	0.20
	Less	3.06	0.18
No Humor	More	2.16	0.34
	Less	2.59	0.46

Note. Directional significance testing revealed no main effects at $p=.10$.

Table 24

Phase 1 Item #1 Humor Manipulation Check for the Two-factor Humor and Transparency Median-split Model

Humor Condition	Relational Transparency	*M*	*SD*
Humor	More	3.84	0.13
	Less	2.50	0.38
No Humor	More	3.09	0.12
	Less	2.97	0.28

Note. Significance testing revealed a main effect for humor at p=.01 and a significant interaction effect at p=.03.

Table 25

Phase 1 Leader Behavior Scores for the Four-factor Humor and Transparency Median-split Model

Humor Condition	Relational Transparency	*M*	*SD*
Self-disparaging	More	5.75	0.19
	Less	5.34	0.26
Familiar other-disparaging	More	6.04	0.22
	Less	4.98	0.22
Generic other-disparaging	More	6.09	0.28
	Less	5.29	0.23
No Humor	More	5.11	0.29
	Less	4.65	0.40

Note. Significance testing revealed a main effect for relational transparency at p=.01.

Table 26

Phase 1 Leader Behavior Scores for the Three-factor Humor and Transparency Median-split Model

Humor Condition	Relational Transparency	*M*	*SD*
Self-disparaging	More	5.75	0.19
	Less	5.36	0.25
Other-disparaging	More	6.04	0.17
	Less	5.12	0.15
No Humor	More	5.12	0.29
	Less	4.65	0.40

Note. Significance testing revealed a main effect for relational transparency at p=.03, and for humor at p=.01.

Table 27

Phase 1 Leader Behavior Scores for the Two-factor Humor and Transparency Median-split Model

Humor Condition	Relational Transparency	*M*	*SD*
Humor	More	5.92	0.13
	Less	5.87	0.13
No Humor	More	5.11	0.29
	Less	4.65	0.40

Note. Significance testing revealed a main effect for relational transparency at p=.03, and for humor at p=.01.

Table 28
Means and Standard Errors on the Dependent Variables for the Treatment Groups, Phase 1

Humor	Relational Transparency	Trust		Positive Emotions		Creative Performance	
		M	*SE*	*M*	*SE*	*M*	*SE*
Self-disparaging	More	4.97	0.17	3.47	0.17	2.77	0.18
	Less	4.26	0.21	3.87	0.22	3.08	0.23
Other-disparaging	More	5.17	0.14	3.67	0.15	2.89	0.15
	Less	4.29	0.14	3.23	0.14	2.56	0.15
No humor	More	4.44	0.32	3.65	0.33	3.29	0.34
	Less	4.42	0.33	3.48	0.34	2.77	0.35

Table 29

Summary of Multivariate Analysis of Covariance on Phase 1 Dependent Variables

	Covariate Analysis		
	F	*β*	*t*
Trust			
Task relevance	0.03	0.01	0.18
Observation of context	0.76	-0.15	-0.87
Motivation for creativity	5.06*	0.30	2.25
Age	8.42**	-0.02	-2.90
Gender	2.39	0.24	1.55
Positive Emotions			
Task relevance	9.01**	0.23	3.00
Observation of context	5.91*	-0.44	-2.43
Motivation for creativity	12.09**	0.48	3.48
Age	0.25	0.00	-0.50
Gender	0.12	-0.06	-0.35
Creative Performance			
Task relevance	0.15	-0.03	-0.39
Observation of context	0.95	0.18	0.98
Motivation for creativity	1.57	0.18	1.25
Age	0.00	0.00	-0.03
Gender	4.40*	0.34	2.10

Main and Interaction Effects

Dependent Variable	Multivariate F	Univariate F	η^2	*Observed Power*
Trust	4.50**			
Humor		0.84	0.02	0.19
Relational Transparency		7.25**	0.08	0.76
Humor x Transparency		1.50	0.03	0.31
Positive Emotions	3.93**			
Humor		0.83	0.02	0.19
Relational Transparency		0.12	0.00	0.06
Humor x Transparency		2.90	0.06	0.55
Creative Performance	1.36			
Humor		1.04	0.02	0.23
Relational Transparency		0.74	0.01	0.14
Humor x Transparency		1.97	0.04	0.40

* *p=.05; ** p=.01*

Table 30
Means and Standard Errors on the Dependent Variables for the Treatment Groups, Phase 2

		Trust		Positive Emotions	
		M	*SE*	*M*	*SE*
Self-disparaging	More Transparent	5.08	0.23	3.53	0.21
	Less Transparent	4.17	0.25	3.44	0.23
Other-disparaging	More Transparent	5.34	0.18	3.18	0.16
	Less Transparent	3.79	0.20	3.45	0.18
No humor	More Transparent	4.93	0.35	3.37	0.33
	Less Transparent	3.84	0.54	3.25	0.50

Table 31

Summary of Multivariate Analysis of Covariance on Phase 2 Dependent Variables

	Covariate Analysis		
	F	*β*	*T*
Trust			
Task relevance	6.30*	-0.04	-0.37
Observation of context	0.43	0.08	0.35
Motivation for creativity	17.03**	0.74	4.13
Age	0.20	-0.01	-0.64
Gender	0.41	0.14	0.65
Positive Emotions			
Task relevance	0.12	0.08	0.93
Observation of context	6.48*	0.57	2.55
Motivation for creativity	0.44	-0.07	-0.44
Age	0.14	0.02	2.51
Gender	0.87	0.13	0.66

	Main and Interaction Effects			
Dependent Variable	Multivariate F	Univariate F	η^2	*Observed Power*
Trust	4.93**			
Humor		0.21	0.01	0.08
Relational Transparency		18.52**	0.01	0.11
Humor x Transparency		1.19	0.24	0.99
Positive Emotions	1.59			
Humor		0.39	0.00	0.05
Relational Transparency		0.01	0.04	0.25
Humor x Transparency		0.50	0.02	0.13

* *p=.05;* ** *p=.01*

Table 32
Means and Standard Errors on the Dependent Variables for the Treatment Groups, Phase 1

		Trust		Positive Emotions		Creative Performance	
		M	*SE*	*M*	*SE*	*M*	*SE*
Humor	More Transparent	5.09	0.11	3.59	0.12	2.85	0.12
	Less Transparent	4.29	0.12	3.42	0.12	2.71	0.13
No humor	More Transparent	4.44	0.32	3.64	0.34	3.28	0.35
	Less Transparent	4.43	0.33	3.47	0.35	2.76	0.35

Table 33

Summary of Multivariate Analysis of Covariance on Phase 1 Dependent Variables.

	Covariate Analysis		
	F	*β*	*T*
Trust			
Task relevance	0.03	0.00	0.05
Observation of context	0.99	0.01	0.17
Motivation for creativity	5.57*	0.06	0.65
Age	8.76**	0.09	0.83
Gender	2.44	0.03	0.34
Positive Emotions			
Task relevance	7.37**	0.08	0.77
Observation of context	6.78*	0.07	0.73
Motivation for creativity	13.02**	0.13	0.95
Age	0.52	0.01	0.11
Gender	0.26	0.00	0.08
Creative Performance			
Task relevance	0.32	0.00	0.09
Observation of context	0.67	0.01	0.13
Motivation for creativity	1.94	0.02	0.28
Age	0.05	0.00	0.06
Gender	3.76	0.04	0.48

	Main and Interaction Effects			
Dependent Variable	Multivariate F	Univariate F	η^2	*Observed Power*
Trust	5.59**			
Humor		1.16	0.01	0.19
Relational Transparency		2.67	0.03	0.37
Humor x Transparency		2.71	0.03	0.37
Positive Emotions	3.87**			
Humor		0.04	0.00	0.05
Relational Transparency		0.43	0.00	0.10
Humor x Transparency		0.00	0.00	0.05
Creative Performance	0.68			
Humor		0.89	0.01	0.15
Relational Transparency		1.49	0.02	0.23
Humor x Transparency		0.55	0.01	0.11

* *p=.05;* ** *p=.01*

Table 34

Means and Standard Errors on the Dependent Variables for the Treatment Groups, Phase 2

		Trust		Positive Emotions	
		M	*SE*	*M*	*SE*
Humor	More Transparent	5.23	0.14	3.31	0.13
	Less Transparent	3.94	0.15	3.44	0.14
No humor	More Transparent	4.92	0.35	3.37	0.32
	Less Transparent	3.91	0.54	3.22	0.49

Table 35

Summary of Multivariate Analysis of Covariance on Phase 2 Dependent Variables

	F	*β*	*T*
Trust			
Task relevance	0.02	-0.01	-0.14
Observation of context	0.21	0.11	0.46
Motivation for creativity	15.44**	0.70	3.93
Age	0.52	-0.01	-0.72
Gender	0.97	0.20	0.98
Positive Emotions			
Task relevance	0.63	0.07	0.80
Observation of context	8.09**	0.61	2.84
Motivation for creativity	0.10	-0.05	-0.32
Age	6.92*	0.02	2.63
Gender	0.35	0.11	0.59

Main and Interaction Effects

Dependent Variable	Multivariate *F*	Univariate *F*	η^2	*Observed Power*
Trust	5.87**			
Humor		0.25	0.00	0.08
Relational Transparency		10.42**	0.15	0.89
Humor x Transparency		0.18	0.00	0.07
Positive Emotions	1.79			
Humor		0.06	0.00	0.06
Relational Transparency		0.01	0.00	0.05
Humor x Transparency		0.20	0.00	0.07

* *p=.05;* ** *p=.01*

Table 36
Within-group analyses

Leader Behavior		*rwg*	*Rwg*
Gender	Men	0.894	1.99
	Women	0.874	1.79
Years of Experience	1-5	0.930	2.53
	6-10	0.816	1.41
	11-15	0.871	1.77
	16-20	0.723	1.04
	21-25	0.948	2.98
	26+	0.975	4.39
Humor Condition	Humor	0.869	1.76
	No Humor	0.922	2.38
Transparency Perceptions	More	0.906	1.42
	Less	0.818	2.14
Transparency		*rwg*	*Rwg*
Gender	Men	0.821	1.44
	Women	0.815	1.41
Years of Experience	1-5	0.928	2.49
	6-10	0.791	1.29
	11-15	0.762	1.18
	16-20	0.762	1.18
	21-25	0.986	5.91
	26+	0.893	1.98
Humor Condition	Humor	0.842	1.56
	No Humor	0.654	0.86
Transparency Perceptions	More	0.614	0.42
	Less	0.391	0.78

Note. All *Rwg* values exceed practical significance *Rwg*<=.27.

Table 37
Phases 1 and 2 PLS Weights and Loadings.

		Phase 1		Phase 2	
Variable		Weight	Loading	Weight	Loading
Humor Perceptions	Humor1	.338	.995	.334	.998
	Humor2	.335	.996	.333	.999
	Humor3	.333	.991	.335	.997
Transparency Perceptions	Transp1	.210	.990	.205	.997
	Transp2	.200	.971	.205	.996
	Transp3	.199	.972	.192	.963
	Transp4	.202	.983	.204	.996
	Transp5	.210	.988	.204	.996
Positive Emotions	PE01	.129	.989	.127	.997
	PE02	.127	.977	.125	.996
	PE03	.128	.992	.126	.998
	PE04	.129	.992	.126	.998
	PE05	.124	.963	.124	.990
	PE06	.130	.994	.125	.997
	PE07	.127	.982	.126	.997
	PE08	.125	.963	.126	.998
Trust	OTIA101	.085	.997	.084	.999
	OTIA102	.084	.988	.083	.996
	OTIA201	.086	.997	.084	.999
	OTIA202	.085	.991	.084	.998
	OTIA301	.082	.962	.083	.992
	OTIA302	.085	.990	.084	.995
	OTIC101	.085	.995	.084	.999
	OTIC102	.086	.996	.082	.990
	OTIC201	.084	.982	.084	.999
	OTIC202	.084	.989	.084	.997
	OTIC301	.085	.994	.084	.997
	OTIC302	.082	.954	.083	.997
Creative Performance	Creativ_1a	.330	.999	.334	1.000
	Creativ_2a	.336	.999	.334	1.000
	Creativ_3a	.335	.999	.334	1.000
Humor Appreciation	HumApp01	.188 ±	.840	.197 ±	.843
	HumApp02	.397	.986	.346 ±	.984
	HumApp03	.456	.989	.499 ±	.989
Motivation for Creativity	Create01	.266	.952	.233 ±	.947
	Create02	.294	.978	.275±	.976
	Create03	.352	.965	.372±	.967
	Create04	.041±	.923	.005±	.920
	Create05	.089±	.928	.158±	.934

Note. All values were statistically significant in a bootstrap *t*-test ($p<.05$) except for those indicated by "±"

Table 38

Factor and Cross-Factor Loadings, Internal Consistency Reliabilities, and Average Variance Extracted From Construct Measures, Phase 1

	Loading						
Measure	*1*	*2*	*3*	*4*	*5*	*6*	*7*
Humor Appreciation, PreMeasure (.83, .74)							
HumApp01	**0.73**	0.58	0.19	-0.03	0.62	0.41	0.08
HumApp02	**0.91**	0.66	0.18	-0.07	0.61	0.34	0.11
HumApp03	**0.93**	0.67	0.05	-0.06	0.65	0.32	0.02
Motivation for Creativity, PreMeasure (.84, .61)							
Create01	0.66	**0.79**	0.05	0.02	0.09	0.06	0.08
Create02	0.57	**0.85**	0.07	0.06	0.14	0.10	0.09
Create03	0.61	**0.74**	-0.02	-0.02	0.10	0.02	0.11
Create04	0.63	**0.78**	0.04	0.05	0.05	0.10	0.02
Create05	0.61	**0.74**	0.06	0.02	0.11	0.11	0.03
Humor Perceptions, Phase 1 (---, .59)							
Humor1	0.05	-0.02	**0.83**	0.39	0.78	0.76	0.32
Humor2	0.18	-0.01	**0.89**	0.14	0.71	0.79	0.32
Humor3	0.19	0.01	**0.84**	0.54	0.76	0.72	0.30
Transparency Perceptions, Phase 1 (.83, .60)							
Transp1	0.16	-0.01	0.67	**0.78**	0.61	0.57	0.05
Transp2	0.15	-0.03	0.61	**0.77**	0.62	0.51	0.03
Transp3	0.06	-0.02	0.58	**0.81**	0.64	0.53	0.05
Transp4	0.14	-0.02	0.61	**0.69**	0.61	0.56	0.02
Transp5	0.11	-0.04	0.57	**0.80**	0.68	0.54	-0.02
Positive Emotions, Phase 1 (.92, .64)							
PE01	0.19	0.03	0.52	0.47	**0.72**	0.57	0.31
PE02	0.18	0.05	0.57	0.45	**0.77**	0.54	0.28
PE03	0.14	0.04	0.55	0.51	**0.80**	0.48	0.28
PE04	0.11	0.02	0.53	0.45	**0.77**	0.52	0.33
PE05	0.18	0.05	0.56	0.51	**0.86**	0.51	0.31
PE06	0.14	-0.02	0.51	0.49	**0.86**	0.53	0.30
PE07	0.17	0.03	0.49	0.52	**0.77**	0.52	0.29
PE08	0.15	0.01	0.61	0.48	**0.86**	0.51	0.33
Trust, Phase 1 (.92, .62)							
OTIA101	0.19	0.03	0.42	0.60	0.29	**0.91**	0.20
OTIA102	0.19	0.03	0.50	0.40	0.32	**0.71**	0.19
OTIA201	0.20	-0.01	0.46	0.52	0.48	**0.88**	0.21
OTIA202	0.21	0.06	0.48	0.44	0.36	**0.81**	0.20

OTIA301	0.20	0.03	0.45	0.46	0.31	**0.55**	0.19
OTIA302	0.19	0.01	0.66	0.53	0.29	**0.76**	0.35
OTIC101	0.18	0.04	0.29	0.48	0.37	**0.85**	0.32
OTIC102	0.19	0.01	0.58	0.45	0.26	**0.88**	0.20
OTIC201	0.20	0.02	0.64	0.32	0.31	**0.81**	0.19
OTIC202	0.18	0.03	0.58	0.18	0.19	**0.69**	0.33
OTIC301	0.17	0.07	0.62	0.59	0.30	**0.86**	0.27
OTIC302	0.18	-0.02	0.48	0.36	0.28	**0.67**	0.28
Creative Performance, Phase 1 (.92, .92)							
Creativ_1	0.13	0.35	0.07	0.21	0.22	0.11	**0.94**
Creativ_2	0.34	0.28	0.19	0.29	0.07	0.09	**0.97**
Creativ_3	0.23	0.17	0.21	0.21	0.11	0.13	**0.97**

Note. Largest factor loadings for each item are in bold print. Values in parentheses represent internal consistency reliability and average variance extracted, respectively, for each construct. Reliabilities for the humor perceptions items were not calculated because the items represent separate manipulation checks for each of the humor conditions

Table 39

Factor and Cross-Factor Loadings, Internal Consistency Reliabilities, and Average Variance Extracted From Construct Measures, Phase 2

	Loading						
Measure	*1*	*2*	*3*	*4*	*5*	*6*	*7*
Humor Appreciation, PreMeasure (.83, .74)							
HumApp01	**0.73**	0.48	0.02	-0.03	0.32	0.14	-0.05
HumApp02	**0.91**	0.37	0.08	-0.11	0.41	0.09	-0.25
HumApp03	**0.93**	0.34	0.06	-0.21	0.35	0.12	-0.04
Motivation for Creativity, PreMeasure (.84, .61)							
Create01	0.28	**0.79**	0.13	0.07	0.08	-0.11	0.27
Create02	0.01	**0.85**	0.17	0.02	-0.01	-0.39	0.17
Create03	0.04	**0.74**	0.27	0.01	0.13	-0.26	0.34
Create04	0.17	**0.78**	0.29	0.18	0.08	0.04	0.47
Create05	0.05	**0.74**	0.27	0.15	0.09	-0.11	0.33
Humor Perceptions, Phase 2 (---, .75)							
Humor1	0.08	0.15	**0.89**	0.45	0.19	-0.05	0.11
Humor2	0.12	0.02	**0.92**	0.41	0.18	-0.10	0.09
Humor3	-0.21	0.11	**0.78**	0.37	-0.02	0.01	0.01
Transparency Perceptions, Phase 2 (.87, .67)							
Transp1	0.07	0.09	0.33	**0.82**	0.02	0.46	0.04
Transp2	0.01	0.13	0.37	**0.78**	-0.10	0.43	0.05
Transp3	0.13	0.08	0.33	**0.83**	0.17	0.41	0.09
Transp4	-0.01	0.09	0.37	**0.87**	-0.28	0.28	-0.07
Transp5	-0.10	0.19	0.39	**0.80**	0.11	0.29	-0.02
Positive Emotions, Phase 2 (.89, .58)							
PE01	0.20	0.03	0.32	0.28	**0.65**	0.13	0.02
PE02	0.21	0.03	0.48	0.61	**0.68**	0.07	-0.10
PE03	0.20	-0.01	0.36	0.56	**0.80**	0.09	-0.15
PE04	0.19	0.06	0.31	0.65	**0.83**	-0.10	-0.02
PE05	0.18	0.03	0.29	0.49	**0.84**	0.04	-0.07
PE06	0.19	0.01	0.37	0.48	**0.71**	0.10	0.01
PE07	0.20	0.04	0.26	0.34	**0.67**	0.30	0.07
PE08	0.18	0.01	0.31	0.47	**0.86**	0.17	0.11
Trust, Phase 2 (.95, .68)							
OTIA101	0.17	0.07	0.02	0.07	-0.02	**0.89**	-0.19
OTIA102	0.21	0.15	0.04	0.17	0.04	**0.82**	0.13
OTIA201	0.37	0.04	0.17	0.22	0.13	**0.91**	-0.14
OTIA202	0.11	-0.09	0.07	0.11	-0.07	**0.80**	0.08
OTIA301	0.47	0.15	-0.1	0.26	-0.1	**0.62**	0.07

OTIA302	0.19	0.01	0.08	0.28	0.17	**0.75**	-0.16
OTIC101	0.34	0.03	0.11	0.27	0.18	**0.90**	-0.07
OTIC102	0.20	0.01	-0.03	0.11	-0.01	**0.89**	0.10
OTIC201	0.19	-0.22	0.34	0.30	-0.16	**0.92**	0.01
OTIC202	0.22	0.07	0.09	0.23	0.09	**0.76**	0.04
OTIC301	0.20	-0.01	-0.28	0.20	-0.03	**0.76**	-0.21
OTIC302	0.18	-0.14	0.19	0.18	0.08	**0.80**	0.05
Creative Performance, Phase 2 (.92, .97)							
Creativ_1	-0.21	0.25	0.09	-0.11	0.12	0.13	**0.99**
Creativ_2	-0.10	-0.18	0.17	-0.19	0.08	0.06	**0.99**
Creativ_3	-0.12	0.17	0.11	-0.04	0.01	-0.14	**0.97**

Note. Largest factor loadings for each item are in bold print. Values in parentheses represent internal consistency reliability and average variance extracted, respectively, for each construct. Reliabilities for the humor perceptions items were not calculated because the items represent separate manipulation checks for each of the humor conditions

Table 40

Factor and Cross-Factor Loadings, Internal Consistency Reliabilities, and Average Variance Extracted From Construct Measures

	Measure	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
1	Humor Appreciation, PreMeasure	**0.86**											
2	Motivation for Creativity, PreMeasure	0.23**	**0.78**										
3	Humor Perceptions, Phase 1	0.02	-0.09	**0.77**									
4	Humor Perceptions, Phase 2	-0.06	-0.15	0.43**	**0.87**								
5	Transparency Perceptions, Phase 1	-0.09	0.12	0.05	0.43**	**0.77**							
6	Transparency Perceptions, Phase 2	-0.01	-0.20	0.10	0.38**	0.48**	**0.82**						
7	Positive Emotions, Phase 1	0.14	0.34**	0.30**	0.24*	0.28**	0.01	**0.80**					
8	Positive Emotions, Phase 2	-0.04	0.10	0.43**	0.29	0.01	-0.08	0.54**	**0.76**				
9	Trust, Phase 1	0.08	0.22	-0.05	-0.05	0.50**	0.36**	0.26**	-0.21	**0.79**			
10	Trust, Phase 2	-0.02	0.22	-0.04	0.04	0.46**	0.62**	-0.14	-0.15	0.45**	**0.82**		
11	Creative Performance, Phase 1	-0.05	0.10	0.03	0.01	0.01	-0.13	0.04	0.19	0.15	-0.05	**0.96**	
12	Creative Performance, Phase 2	-0.21	0.33	-0.11	0.22	0.02	-0.36	0.28	-0.15	0.15	0.02	0.48*	**0.98**

Note. Boldface elements on the diagonal represent the square root of the average extracted variance. Off-diagonal elements are correlations. Discriminant validity exists if the elements in each row and column are smaller than the diagonal element.

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

Table 41

Comparison of the Analyses by Method

Hypothesis		Analysis Type			
		Hypothesis Testing		Supplemental	
		Phase		Phase	
		One	Two	One	Two
1	Differential effects of humor style.	Partial support found for the original humor conditions.	No support found for the original humor conditions	Partial support found for the collapsed humor conditions.	Partial support found for the collapsed humor conditions.
2	Positive relationship between positive emotions and creative performance.	No significant relationship discovered.	No analysis conducted due to small response rate on this task.	"Substantive" and positive relationship discovered.	"Substantive" and positive relationship discovered.
3	Mediator effect of positive emotions between humor and creative performance.	No significant relationship discovered.	No analysis conducted due to small response rate on this task.	PLS revealed a potentially significant mediator effect.	PLS revealed a potentially significant mediator effect.
4	Positive relationship between relational transparency and trust.	A significant, inverse relationship was discovered.	No support found for this hypothesis.	Support found for this hypothesis.	Support found for this hypothesis.
5	Positive relationship between trust and creative performance.	No significant relationship discovered.	No analysis conducted due to small response rate on this task.	No substantive relationship discovered using PLS.	No substantive relationship discovered using PLS.
6	Mediator effect of trust between relational transparency and creative performance.	No significant relationship discovered.	No analysis conducted due to small response rate on this task.	No substantive relationship discovered using PLS.	No substantive relationship discovered using PLS.
7	Positive relationship between relational transparency and positive emotions.	No significant relationship discovered.	No significant relationship discovered.	No substantive relationship discovered using PLS.	No substantive relationship discovered using PLS.
8	Positive relationship between positive emotions and trust.	A statistically significant relationship discovered.	No significant relationship discovered.	Support found for this hypothesis.	Support found for this hypothesis.

APPENDIX A

LEADER HUMOR MANIPULATION AND CREATIVE TASK ASSIGNMENT

Object Definitions

Information	The free sharing of information and ideas relevant to the organization -- information that was once considered privileged, but not necessarily confidential.
Goals/ Motives	The leader reveals his or her role as an "agent for positive change with respect to themselves and others." Share their motives for pursuing specific organizational goals. No secret as to why followers are asked to perform specific functions.
Identity	The process by which the role of leader is encompassed into one's interpersonal identity.
Values	Authentic leaders are true to their values, to themselves, and resist social, situational and environmental pressures to compromise these values.
Emotions	Authentic leaders express their true emotions to followers, but also regulate them to ensure that these displays are appropriate.

	More Transparent	**Less Transparent**
Identity	*My name is Pat Richards and I'm a retired high school principal from a school district in Kansas.*	My name is Pat Richards and I'm a retired school administrator from a school district in a neighboring state.
Identity	Actually I was a *high school principal for over 15 years* of my career	Actually I was a principal for many years of my career
Emotion	and bullying was an issue *that provided me no end of frustration.*	and bullying was an issue much like it is today.
Emotion	Bullying is still a huge issue for schools and, *frankly, one that unsettles me.*	Bullying is a huge issue in schools and must be dealt with effectively.
Information	*An article in the Nebraska School Council of Administrators' newsletter emphasizes what many of us have witnessed in our careers. We can break up the fights in the hallways, but a more*	An article in a recent school administrators' newsletter summarized the research findings of a study of bullying in Nebraska and emphasizes what many

	holistic approach is necessary to eliminate the more covert forms of bullying occurring in the classroom, for example, harassing notes, ostracism and threatening stares.	teachers, principals, staff and superintendents have witnessed in their careers. Bullying causes a lot of problems for students, but also their teachers and parents.
Values	There are many ways to approach bullying in schools, but some are better than others. *You may not agree with me, but I don't believe armed security guards are the solution for our schools. By posting guards with guns in our schools we're fighting the symptom and not the root problem.*	There are many ways to approach bullying in schools, but some are better than others. Although we all have ideas of how to approach this problem, there is no well established method to contend with bullying and everyone has their own ideas.
Information and Goals	*A goal in my building was to make safety a high priority. Many Americans seem to agree because according to a recent Gallup poll, 62% of those surveyed said that a sense of safety and order at school is important. About 45% said that strong discipline is necessary.*	It seems that safety should be a priority goal for schools. According to a recent national poll, a majority of American adults who were surveyed want their schools to be safe and orderly. Furthermore, nearly half the respondents said that strong discipline is necessary at school.
Information and Values	*It is my belief that in order to solve a problem like bullying we have to understand its root causes. Studies in the 1980's revealed that 9% of all students were bullying victims with 6-7% of students doing the bullying. At the time, few victims admitted to also being bullies. Consistent with my concerns and observations, more current research has revealed two trends: victimization was up 50% from the 1980's data and serious acts of bullying (vs. minor pushing and shoving, etc.) had increased by*	Twenty years of research data on school bullying suggests that most bullying occurs in the classroom and about one in ten students acts as a bully and is involved in physical as well as non-physical forms of aggression. About as many are victims and about half of victims act as bullies, but research findings differ on that point. In fact, covert bullying through passing of intimidating notes, prolonged

	65%. Nansel and colleagues' (2001) found that 29.9% of children reported moderate or frequent involvement in bullying: 13% as bully, 10.6% as victim and 6.3% as both. Research by bullying experts Espelage and Swearer reveals the bully-victim to be as great as 20-25% of any sample. These data may indicate a clear and negative societal impact, especially in that those involved in bullying have greater odds of weapons carrying. In fact, Nansel et al. (2003) found that the odds of weapons carrying were greater for those who bully than for the victims.	staring and even email and text message harassment can occur in any setting. In addition to bullying in the classroom, victims are sometimes bullied on their way to and from school and in hallways between classes. Effects of bullying on victims are the possibility of future antisocial behavior, increased weapons carrying, depression and low self-worth. Conversely, bullies may suffer as badly as the victims and may engage in increased carrying of weapons both at and away from school, future antisocial behavior and relationship dysfunctions later in life.
Emotion	*I know teachers are busy so to help make best use of our time, I will help focus our efforts by prompting you to respond.*	You will receive prompts so that you can focus your efforts. Please type your statements using your keyboard.
Identity	*My experience with problems like bullying leads me to believe that there are many alternative ways to approach its prevention.*	As with any situation involving people in organizations, there are many alternative ways to approach the prevention of bullying.
Values	*Like I said before, I don't believe armed guards in schools is a total solution, and there are more holistic, or community-based, approaches that can be used to minimize bullying.*	Of the prevention options available, some are very strict and compliance focused, but there are more holistic, or community-based, approaches that can be used to minimize bullying.

Information and Identity	*In my district we invested $15,000 over two years, on a focused effort toward training, prevention and education. Half of those dollars came from our district. The other half was matching funds from the Norman-Pearson Local Memorial Foundation for the Development of Youth.*	Many public school districts budget and spend a lot of money on prevention and education. Funding sources vary. Some districts fund the total cost of training and prevention programs, but oftentimes small grants are available to help fund these types of initiatives.
Identity and Emotion	*Looking back on my career, one thing I could have done better -- and regret not doing -- is identifying outcomes for bullying prevention versus simply solving the problem on a kid-by-kid basis.*	Bullying at school is a problem that cannot be solved on a kid-to-kid basis. Identifying outcomes of a bullying prevention program is important for mitigating bullying in school as well as outside.
Emotion	*I am grateful for your thoughts on this issue, every idea has potential merit.*	Your input can potentially have impact on how we view the problem.
Goals/ Motives	*It can provide a good basis for the framework we will use for our upcoming writing of a U.S. Department of Education grant that will certainly benefit yours and other districts in Nebraska.*	It can provide much of the framework for our continuing research about student bullying in the context of Nebraska public school systems.
Identity	*My name is Pat.* I would like to thank you for your contributions during last week's session	I would like to thank you for your contributions during last week's session
Emotion	*and I want to reiterate that your input is important to me and*	and be assured
Goals	*all responses will be of tremendous help in our preparation of the grant submission to the U.S. Department of Education.*	that everyone's responses will contribute to our continuing study and research on the topic of bullying in public schools.

Information	Although these results aren't from our final analysis, *I wanted you to know how the majority of the teachers who responded to this study saw* the various issues that you addressed last week.	Although these results aren't from our final analysis, they are presented here for the purpose of providing you feedback about how other teachers may have viewed the various issues that you addressed last week.
Information and Values	*I have found that the views of most teachers responding to this study are very similar to mine. They said that the school community is responsible for bullying prevention programs and is best addressed by everyone with a stake in public education. Teachers identified the most important goals of a bully prevention program as (1) a long-term reduction of bullying incidents, (2) a clear reduction of antisocial behavior (vandalism, truancy, etc.), and (3) increase in student satisfaction. My thought is that although a holistic approach is perhaps best, the teacher is still the front-line defense. Supporting this is the final point that most teachers acknowledged that teacher supervision is important in preventing bullying behavior, but everyone in the school community must be involved with the program because each teacher needs the back up support to provide the best solution.*	Regarding feedback from last week's exercise, your contributions demonstrated an awareness of the bullying problem in schools and I am sure that you are now anxious to see the results once we have aggregated and analyzed the data. This process will take a few weeks, but we will have the information available for you to see prior to the end of the school year. Generally speaking, the overall responses from our work last week suggested that the goals of a bully prevention program are varied and included, but were not limited to, events and activities such as ongoing assessment of the effectiveness of the program. Teacher supervision was also suggested to be an important component in the prevention of bullying. Other interested parties in the school community were also mentioned as serving a key role in bully prevention.
Emotions and Identity	*Sadly, this story was all too familiar to me. Unfortunately, situations like this were very common in my school as they are*	This story may sound familiar to you. If so then you may not be surprised to know that this vignette

	everyday in public school buildings around the country.	represents a situation that is very common and seen daily in many public school buildings.
Emotions	I don't think I have to tell you how *frustrating these situations make me feel, especially because we are often helpless to uncover and manage the more covert forms of bullying behavior.*	I don't think I have to tell you how challenging these situations are because teachers and principals are often helpless to uncover and manage the various forms of bullying behavior in schools.
Values	*I'm a firm believer that kids should stand up for themselves. Sometimes turning the other cheek only gets it slapped. I would never advocate fighting or other violence in school or family, but kids should know that they can stand up and say "Enough!" But this way of thinking isn't enough and everyone with a stake in the success of public education is responsible for dealing with situations like this and showing students and teachers we'll back them up. Please share your views on this.*	I've tried many different approaches to dealing with situations like this one, like more between-class hall monitoring by teachers and suggesting that students not allow themselves to be victims. Everyone with a stake in the success of public education is responsible for dealing with situations like this. I am sure that you have ideas about this and hope you have been able to share those views, which will be included in the overall report of this session.
Goals and Motives	Like I shared with you before, your input will provide much of the framework *for an upcoming grant from the Department of Education that may benefit yours and other schools in Nebraska.*	Like I shared with you before, your input will provide much of the framework for our continuing research work about bullying in the context of the state of Nebraska public school system.

APPENDIX B

SUMMARY OF SURVEY INSTRUMENTS

Several surveys will be used in this research ranging from two to 12 questions each (49 total, not including background information and coders' ratings). The surveys and their intended purpose are described below, with copies of the full surveys and their sources on the following pages. All surveys will be presented online.

1) Subject Data. This screen will be the first that participants see following informed consent. On this page, demographic data will be collected for aggregate study. This data is collected during phase one only.
2) Pre-measures: Eight (8) items measuring participants' intrinsic motivation for creativity and appreciation of humor.
    a. Participant's Intrinsic Motivation for Creativity. (5-items) This scale will assess baseline self-perceptions of creativity and is collected during Phase One only.
    b. Participant's Appreciation of Humor (3 items). This scale will assess the baseline appreciation for humor and is collected during Phase One only.
3) The Organizational Trust Inventory. (12 items) This scale will assess trust in the leader as depicted in the online exercises.
4) Positive and Negative Affect Schedule. (8 items, selected) Assesses level of feeling on pre-specified emotions.
5) Manipulation checks and control variables. (23 items, total) Assesses whether or not the intended experimental manipulations occurred.

a. Relational transparency. (4 items) Assesses perceptions of whether or not the online leader is open and engages in self-disclosure.

b. Perceptions of Leader's Behavior. (5 items) Assesses perceptions of whether or not the online leader acts in the manner of a leader (e.g., provides direction, is motivating, etc.).

c. Humorousness of a Leader's Message. (4 items) Assesses perceptions of whether or not the online leader is funny and in what way.

d. Relevance of Creative Task. (2 items) Assesses perceptions of whether or not participation was a meaningful experience and contributed in a meaningful way.

e. Observation of bullying (2 items). Participants' will be asked if they have witnessed bullying at work to control for proximal effects of the study context.

f. Recall of leader's name and sex. (2 items) Two items will seek to discern participants' recall of the leader's name and attribution of sex.

g. Leader Expertise in Subject Matter (4 items): Assesses perceptions about the leader's expertise in the subject matter to compare with perceptions of relational transparency.

6) Measure of Participants' Creative Performance. (3 items) Third-party raters will anonymously evaluate participants' contributions during the exercise and assess their creativity based upon responses given.

APPENDIX C

PRE-MEASURES

Participant Background Data

Thank you for participating in this study! Please tell us a little bit about yourself by responding to the following items. Remember, *ONLY* the researchers will see your responses, which will be kept ***strictly confidential.***

1. **Email address:** _____
   (This is *required* for record keeping purposes and to remind you about part two of this study only, this information will be eliminated upon completion of the study).

2. **Your Age (years):** _____

3. **Your Sex:** _____ **Male** _____ **Female**

4. **Your Highest Completed Level of Education**
(a) _____Less than high school
(b) _____High school degree
(c) _____Some college
(d) _____Associate degree
(e) ____Four-year degree
(f) ____Masters degree
(g) ____Ph.D. or equivalent
(h) ____Other (please specify):
_____

5. **Marital Status:**
(a) _____Single
(b) _____Married
(c) _____Widowed
(d) _____Divorced or separated

6. **Ethnicity:**
(a) _____White not of Hispanic Origin
(b) _____Hispanic Origin
(c) _____African American
(d) _____Asian American
(e) _____Native American
(f) _____Other
_____

7. **Teaching Position (check all that apply):**
(a) _____High School

(b) _____Middle School
(c) _____Elementary School
(d) _____Math and Sciences
(e) _____English and History
(f) _____Music and Art
(g) _____PE and Home Economics
(h) _____SPED

8. Number of years as a teacher? _____

9. Number of years in current teaching position? _____

10. Approximate size of school district (# of students)? _____

Follower Propensity and Intrinsic Motivation for Creativity

Selected items from Amabile (1985) and Tierney, Farmer, & Graen (1999)

Please indicate the extent to which you agree or disagree that each statement currently describes your self-orientation.

1	2	3	4	5
Not No Extent	**To a Lesser Extent than to a Greater Extent**	**Neutral**	**Somewhat**	**To a Great Extent**

- ❑ *I enjoy finding solutions to complex problems.*
- ❑ *I enjoy improving existing processes or procedures.*
- ❑ *I enjoy coming up with new ideas for projects.*
- ❑ *I enjoy engaging in analytical thinking.*
- ❑ *I enjoy creating new procedures for work tasks.*

Follower Appreciation of Humor

Selected items from the Thorson & Powell (1993) Multidimensional Sense of Humor Scale

Please indicate the extent to which you agree or disagree that each statement most accurately characterizes your response to the statement.

1	2	3	4	5
Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**

- ❑ *I like a good joke*
- ❑ *I appreciate those who generate humor*
- ❑ *I'm uncomfortable when everyone is cracking jokes (R)*

APPENDIX D

POST-MEASURES

Follower Attitudes of Trust toward Leader

The Organizational Trust Inventory - Adapted (OIT; Cummings & Bromiley, 1996) R = Reverse Scored Item; Number in ( ) indicates original item number.

Based on your impressions of the leader, please respond to the following statements. There are no incorrect responses. Use the following scale when responding to each statement. Indicate the number which you feel most accurately characterizes your response to the statement.

1	2	3	4	5	6	7
Strongly Disagree	**Disagree**	**Slightly Disagree**	**Neither Disagree nor Agree**	**Slightly Agree**	**Agree**	**Strongly Agree**

Dimension 1 Affect

- I feel that the leader will keep his word (56)
- I feel that the leader tries to get out of his commitments **R** (67)

Dimension 1 Cognitive

- In my opinion, the leader is reliable (43)
- I think the leader keeps her/his promises (45)

Dimension 2 Affect

- I feel that the leader dealt with me honestly (54)
- I feel that the leader establishes and communicates expectations fairly (72)

Dimension 2 Cognitive

- I think that the leader tells the truth (41)
- I think that the leader does not mislead me (62)

Dimension 3 Affect

- I feel that the leader will try to get the upper hand **R** (52)
- I feel that the leader takes advantage of people who are vulnerable **R** (81)

Dimension 3 Cognitive

- I think that the leader succeeds by stepping on other people **R** (47)
- I think that the leader will take advantage of my problems **R** (53)

Positive and Negative Affect Schedule

Selected items from the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988)

The following measure has a variety of statements that involves peoples' feelings at a particular point in time. There are no incorrect responses so please answer honestly. Use the following scale when responding to each statement by clicking on the number from the scale below which you feel most accurately characterizes your response to the statement.

1	2	3	4	5
Very Slight or Not at All		**Neutral**		**Very Much**

- ❑ Please rate the extent to which you feel *alert* at this point in time.
- ❑ Please rate the extent to which you feel *attentive* at this point in time.
- ❑ Please rate the extent to which you feel *determined* at this point in time.
- ❑ Please rate the extent to which you feel *enthusiastic* at this point in time.
- ❑ Please rate the extent to which you feel *excited* at this point in time.
- ❑ Please rate the extent to which you feel *inspired* at this point in time.
- ❑ Please rate the extent to which you feel *interested* at this point in time.
- ❑ Please rate the extent to which you feel *proud* at this point in time.

APPENDIX E

MANIPULATION CHECKS

Follower Perceptions of a Leader's Relational Transparency

Selected items from Smircich and Chesser (1981) Authentic Relationship Questionnaire (Post-test, both phases)

Based on your impressions of the leader in the exercise, please respond to the following statements. The following measure has a variety of statements that involves peoples' perceptions about others. There are no incorrect responses so please answer honestly. Use the following scale when responding to each statement by clicking on the number from the scale below which you feel most accurately characterizes your response to the statement.

1	2	3	4	5	6	7
Strongly Uncharacteristic Of the relationship						**Strongly Characteristic Of the relationship**

- ❑ With me, this person is honestly himself/herself.
- ❑ I can really communicate what I feel with this person
- ❑ When I talk with this person my words match my feelings.
- ❑ My relationship with this person is open and direct.

Follower Perceptions of Leader's Behavior
(Post-test, both phases)

Based on your impressions of the leader in the exercise, please respond to the following statements. The following measure has a variety of statements that involves peoples' perceptions about others behaviors. There are no incorrect responses so please answer honestly. Use the indicated scale when responding to each statement by clicking on the number from the scale below which you feel most accurately characterizes your response to the statement.

1	2	3	4	5
Not at all	**Once in a while**	**Sometimes**	**Fairly Often**	**Frequently if not always**

- ❑ Says exactly what (s)he means.
- ❑ Shows sensitivity to people's individual needs.
- ❑ Goes beyond self-interest for the good of the organization.
- ❑ Challenges old assumptions and beliefs.
- ❑ Gets others to look at problems from many different angles.

Follower Perceptions of the Humorousness of a Leader's Message
(Post-test, both phases)

Based on your impressions of the leader in the exercise, please respond to the following statements. The following measure has a variety of statements that involves peoples' perceptions about others. There are no incorrect responses so please answer honestly. Use the indicated scale when responding to each statement by clicking on the number from the scale below which you feel most accurately characterizes your response to the statement.

1	2	3	4	5
Not Very Much	**To a Lesser Extent than to a Greater Extent**	**Neutral**	**Somewhat**	**To a Great Extent**

- *To what extent did you find this leader to be funny?*
- *To what extent did the leader make fun of himself?*
- *To what extent did the leader poke fun at others?*
- *Please state, specifically and in your own words, why you found the presenter to be funny/not funny. OPEN-RESPONSE FIELD*

Follower Perceptions of Relevance of Creative Task
(Post-test, both phases)

Please answer the following questions in relation to the exercise you just completed. There are no incorrect answers so please answer honestly.

- *To what extent do you believe that your task in the online exercise was relevant?*

1	2	3	4	5
Not Very Much	**Lesser than Greater Extent**	**Neutral**	**Somewhat**	**To a Great Extent**

- *Please state, specifically and in your own words, why you found the task to be relevant or not. OPEN-RESPONSE FIELD*

Participant Observation of Bullying at Work
(Post-test, both phases)

Please answer the following questions.

- *Have you observed bullying behavior in the past week? (yes-no response)*
- *If so, in a sentence or two, please describe the incident.*

Recall of Leader's Name and Attribution of Sex
(Post-Phase Two, only)

Please answer the following questions.

- *What was the retired principal's name in this exercise? (Open-ended response)*
- *Was the retired principal a man or a woman? (Open-ended response)*

Assessment of Leader's Expertise
(Post-Phase Two, only)

1	2	3	4	5
Not Very Much	**Lesser than Greater Extent**	**Neutral**	**Somewhat**	**To a Great Extent**

- *To what extent did Pat Richards provide relevant information about the subject of school bullying?*
- *To what extent did you feel that Pat Richards was knowledgeable about the subject of school bullying?*
- *To what extent did you feel that Pat Richards was a subject matter expert about the topic of school bullying?*
- *To what extent did you feel that Pat Richards's had a grasp of issues facing teachers in public school buildings?*

APPENDIX F

INDEPENDENT MEASURE OF PERFORMANCE

Measure of Participants' Creative Performance (Independent raters)

Participant creative performance will be measured by the mean scale score of two trained raters who will be blind to the hypotheses advanced in this paper. The two raters will evaluate each participant's submission. The raters will only have access to the participants' submissions from the experiment and no other information about them. The evaluation items presented below is based upon those used by Jaussi and Dionne (2003) in their study of the effects of a leader's unconventional behavior on creativity.

1	2	3	4	5
Not Very Much	**To a Lesser Extent than to a Greater Extent**	**Neutral**	**Somewhat**	**To a Great Extent**

- *How much of this person's perspective was unique?*
- *Overall, how creative was this person's approach to this task?*
- *How would you rate this person's creativity in terms of idea generation?*