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Emotional Contagion in Leader – Follower Interactions

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ABSTRACT

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Affect has been theoretically important to charismatic leadership for over 80 years as Weber (1920) referred to the emotion, passion, and devotion that ensue from charismatic authority, and is still evident in modern theories of charismatic and transformational leadership. When leaders express positive affect, they elicit more positive follower attributions of leadership (Lewis, 2000; Newcombe & Askanasy, 2002) and better follower performance (George, 1995; George & Bettenhausen, 1990). Yet the mechanism for these effects has largely been ignored in empirical research. The current studies examine emotional contagion as one means by which leader affect influences follower outcomes. Emotional contagion is the transfer of affect between persons that is thought to occur through unconscious and automatic mechanisms (Hatfield, Cacioppo, & Rapson, 1992). If leaders are able to transmit positive affect to their followers, then followers’ positive affect should result in more positive attributions of leadership and better performance. In two laboratory studies and one field study, I tested the effects of affect and emotional contagion on leader and follower outcomes. Study 1 examined the effect of manipulated positive and negative affect on leadership behavior, using MBA students (n = 42). Leaders in the positive affect condition exhibited better leadership behavior than
leaders in the negative affect condition. Study 2 tested the subsequent impact of leader affect on follower outcomes \((n = 200)\). The proposed model suggested that leader affect influenced follower attributions of transformational leadership and performance directly, and through follower affect. Structural equation modeling indicated that the hypothesized model fit the data well. Study 3 largely replicated the findings of Study 2, using a field study of principals and teachers \((n = 228)\). Hierarchical Linear Modeling demonstrated that leader (principal) positive affect related to follower (teacher) positive affect via emotional contagion. Follower positive and negative affect related to follower attributions of transformational leadership and performance, in terms of organizational citizenship behavior. Follower attributions of transformational leadership also related to follower organizational citizenship behavior. As a whole, these three studies highlight the importance of affect and emotional contagion in leadership.
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Emotional Contagion in Leader – Follower Interactions

Affect has been theoretically linked to charismatic leadership for over 80 years as Weber (1920) referred to the emotion, passion, and devotion that ensue from charismatic authority. Furthermore, affect remains central to modern theories of charismatic and transformational leadership (e.g. Bass, 1985; Bass & Avolio, 1995; Conger & Kanungo, 1994; Gardner & Avolio, 1998; House, 1977; Shamir, Arthur, & House, 1994). Previous research suggests that leader affect not only results in more positive leadership perceptions (Lewis, 2000; Newcombe & Askanasy, 2002) and follower performance (George, 1995; George & Bettenhausen, 1990; Staw & Barsade, 1993), but also influences objective leader behavior (Staw & Barsade, 1993). Leader affect also influences follower affect via emotional contagion (Cherulnik, Donley, Wiewel, & Miller, 2001; Lewis, 2000). As Friedman, Prince, Riggio, and DiMatteo (1980) suggested, charismatic leadership is rooted in emotion and a leader’s ability to inspire followers through emotional contagion. The current research builds upon previous research by examining the extent to which emotional contagion may explain the effects of leader affect on follower outcomes. That is, follower affect may mediate the relationship between leader affect and follower attributions of leadership and performance.

Theoretical Background of Affect

While the terms mood, emotion, affect, and affectivity are used somewhat interchangeably, it is important to distinguish between these constructs. The first point of distinction lies between state affect and the more stable personality-based trait affect, which is often termed positive/negative affectivity (e.g. George, 1989; Tellegen,
1982, 1985; Watson, Clark, & Carey, 1988; Watson & Pennebaker, 1989). There is reason to believe that both trait and state based affect influence leadership outcomes. Cropanzano and Wright (2001) suggest that positive affectivity should be related to performance because people higher in positive affectivity are more socially skilled, more proactive, more optimistic, and less stressed than people lower in positive affectivity. Positive affectivity is related to: sociability (Costa & McCrae, 1980, 1984; Emmons, 1986; Smith, 1961); extraversion and social boldness (Costa & McCrae, 1984; Emmons, 1986); optimism, warmth, emotional stability, and self-insight (Smith, 1961); tempo, vigor, and social involvement (Costa & McCrae, 1980). Conversely, negative affectivity is associated with: impulsiveness, anxiety, hostility, psychosomatic complaints, neuroticism, aggressiveness (Costa & McCrae, 1980), and general distress with work and life (Brief, Burke, George, Robinson, & Webster, 1988). Cropanzano, James, and Konovsky (1993) included additional outcomes and found that positive and negative affectivity are related to organizational commitment, turnover, and job performance for high tenure employees.

The focus of the current research is on affect as a state. Ashforth and Humphrey (1995) define state affect as a subjective feeling as opposed to a disposition. While affectivity influences state affect, such that individuals high in positive affectivity may be more likely to experience positive affect in general (Tellegen, 1982, 1985; Watson & Pennebaker, 1989), being high in positive affectivity does not necessarily translate into a person experiencing positive affect in any given context (George, 1991). The same should hold true for the relationship between negative affectivity and negative affect.
There are at least two types of state affect: moods and emotions. Emotions have clear causes or objects, are shorter in duration, and tend to be more intense and focused than moods (Frijda & Mesquita, 1994). For example, you can be angry at your boss, proud of your team, or jealous of your sibling. In each of these cases there is a clear object toward which the emotion is directed. Moods are lower in intensity, are not directed toward a specific object, and are more diffuse than emotions (Forgas, 1992; Lazarus, 1991). That is not to say that moods do not have causes, but that moods are not directed at specific objects. As Lazarus said, a mood is a “transient reaction to specific encounters with the environment,” (p. 47). Moods can be caused by one’s environment, one’s own emotions as they diffuse (Lazarus, 1991) or others’ emotions through emotional contagion (Hatfield, Cacioppo, & Rapson, 1992). However, one may not realize that he or she is experiencing a mood, or that a mood is influencing his or her behavior (Forgas, 1992).

It is also important to distinguish between positive and negative affect. Watson and colleagues concluded that both state and trait affect are comprised of two distinct continua, rather than a single continuum ranging from negative to positive (Watson & Clark, 1984; Watson & Tellegen, 1985). They proposed that low positive affect is not the same as negative affect; but rather, is the lack of positive affect. Someone low in positive affect may lack energy or zest, but is not necessarily depressed or angry. Similarly, being low in negative affect does not mean that one is happy, just that he or she is not unhappy. While this factor structure has been widely accepted, there is some question as to whether the independence of positive and negative affect holds up for state affect (Diener &
Emmons, 1984; Diener & Iran-Nejad, 1986). Yet, the separation of positive and negative affect has proved to be a useful one.

One consequence of not viewing affect as two orthogonal dimensions is the relative dearth of organizational research on negative affect. When negative affect is reported, positive affect is often excluded. The result of this is a lack of understanding as to how positive affect and negative affect differ. There is some evidence that the patterns for negative affect differ from those of positive affect (see Isen, 1985). However, with little research in this area, the current studies rely on the assumption that the outcomes of positive affect are the opposite of negative affect in general.

The Outcomes of Affect: Perceptions and Performance

The role of affect in organizational behavior has received increasing theoretical attention (Barsade, Brief, & Spataro 2003; Brief & Weiss, 2002; George, 2002; Isen & Baron, 1991), possibly because of the influence of affect on worker perceptions and performance (e.g., Judge, Thoresen, Bono, & Patton, 2001). The following sections highlight the effects of positive and negative affect on attitudes, behaviors, and performance. When applied to a leadership setting, this research would suggest that leader affect should influence leader behavior. Leader affect should also influence follower attributions of transformational leadership and performance. In addition, leader affect should be transferred to followers through emotional contagion, and thereby, should influence follower attributions of transformational leadership and performance. That is, follower affect should mediate the relationship between leader affect and the follower outcomes of attributions of transformational leadership and performance (Figure 1).
Figure 1. Hypothesized model between leader affect, follower affect, follower ratings of transformational leadership, and follower performance.
Affect and Perceptions

There are at least three theoretical reasons why positive affect should result in more positive perceptions, and negative affect should result in more negative perceptions. The first is the affect-priming principle, which suggests that if an affective state is primed, then it will result in the retrieval of affect-congruent thoughts and memories (Bower, 1981). There are two different theories of how this process occurs. The first is mood congruent learning (Bower, Gilligan, & Montiero, 1981; Nasby & Yando, 1982) and the second is state dependent learning (Bartlett & Santrock, 1979; Bower, Montiero, & Gilligan, 1978). Mood congruent learning suggests that people are more likely to learn information that is of the same affective tone as their current affective state. In other words, if someone is experiencing positive affect, they are more likely to learn positive information (Bower et al., 1981). State dependent learning suggests that people show better recall if information is learned and retrieved in the same affective state. Together, these findings and others (Bower & Cohen, 1982, Isen & Shalker, 1982; Isen et al., 1978) demonstrate that affect influences the recall of information.

The second model is the affect-as-information principle, which suggests that individuals use their affect at the time they make a judgment as an indicator of their feelings toward a given stimulus (Schwarz, 1990). For example, if a couple watched an enjoyable movie on a first date, the movie may cause them to experience positive affect. If asked how the couple felt about each other, they may conclude that they liked each other, in light of their positive affect. The third set of models are contingency models, which suggest that the influence of affect priming and affect as information depends on characteristics of the individual and situation (Forgas, 1992).
Forgas' (1995) Affect Infusion Model is one contingency model that explains how affect influences perceptions. This model suggests that the extent to which affect influences processing depends on the type of processing in which one is engaging. Forgas points to four types of processing: 1) direct access, in which one has a preexisting evaluation; 2) motivated, in which one processes information in line with a preexisting goal; 3) heuristic, which is simplified; and 4) substantive, which is a generative processing strategy to compute an outcome. Affect is most likely to influence processing in the latter two situations, which are higher on the processing continuum. The affect-as-information principle will most likely influence heuristic decisions, while the affect-priming principle will most likely influence substantive processing because it requires attention, encoding, retrieval, and associate processes (Forgas, 1995).

Affect and Performance

Many researchers have described the “happy worker – productive worker” thesis as the “holy grail” of Industrial/Organizational Psychology. A recent meta-analysis by Judge et al., (2001) reported an average correlation of .30 between job satisfaction and job performance. There are several reasons why affect should influence performance. To explain the affect – performance relationship, research has investigated: a) cognitive explanations, suggesting that affect influences decision-making; b) motivational explanations, suggesting that affect influences motivation; and c) interpersonal explanations, suggesting that affect influences aspects of social interactions.

Cognitive explanations. There is a good deal of research suggesting that affect influences decision-making (Isen & Means, 1983; Isen, Means, Patrick, & Nowicki, 1982; Isen, Rosenzweig, & Young, 1991). In one study, Isen and Means (1983) had
participants perform a complex task in which they had to choose a car from six alternatives, using nine dimensions. Persons experiencing positive affect performed better, eliminated more unimportant information, and found more useful heuristics to solve the problems than persons experiencing lower levels of positive affect. The cognitive explanation for this effect is that positive affect causes individuals to rely on useful heuristics (Sinclair & Mark, 1992) and promotes simplification of complex tasks (Isen & Means, 1983; Isen, Means, Patrick, & Nowicki, 1982).

Possibly because of this, people experiencing positive affect are better able to uncover similarities between stimuli (Carnevale & Isen, 1986; Isen et al., 1987; Isen & Daubman, 1984). Positive affect might also lead to better decisions regarding risk-taking behavior, such that positive affect leads to an increase in risk-taking behavior when the chance of losing is low (Arkes, Herren, & Isen, 1988) and a decrease in risk-taking behavior when the chance of losing is high (Isen & Geva, 1987; Isen, Nygren, & Ashby, 1988; Isen & Patrick, 1983). Persons experiencing positive affect may also be more creative and better able to generate novel solutions than persons experiencing negative affect (Isen, Daubman, & Nowicki, 1987, Isen, Johnson, Mertz, & Robinson, 1985; Isen et al., 1987). Isen, et al. (1985) found that people in a more positive affective state came up with more unique word associations using Palermo and Jenkins’ (1964) norms than people in a less positive affective state. Isen, Daubman, and Nowicki (1987) found that positive affect was also associated with lower levels of functional fixedness (Duncker, 1945), and higher levels of creativity (M.T. Mednick, Mednick, and Mednick, 1964; S.A. Mednick, 1962).
More recent research has suggested that one reason for the relation between positive affect and performance may be the neurological outcomes elicited by positive affect. In one study, Ashby, Isen, and Turken (1999) found that positive affect led to an increase in dopamine levels in the brain. Dopamine is associated with more effective cognition (Ashby, Isen, & Turken, 1999). Therefore, the influence of affect on neurological processes may explain some of the affect – performance relationship.

*Interpersonal explanations.* Positive affect should also lead to more effective interpersonal behavior. Staw and Barsade (1993) found that positive affectivity was related to several interpersonal outcomes, including peer ratings of performance, quality of participation, mastery of information, and leadership during a leaderless group discussion. Positive affect is also related to cooperativeness (Gouaux, 1971; Griffitt, 1970; Veitch & Griffitt, 1996) and helping behavior (Cunningham, Steinberg, & Grev, 1980; Isen & Baron, 1991; Isen & Levin, 1972; Isen et al., 1976, Levin & Isen, 1975; Puffer, 1987; Rosenhan et al., 1981; Scholl, Cooper, & McKenna, 1987; Smith, Organ, & Near, 1983). In their model, George and Brief (1992) described positive affect as a direct antecedent of organizational spontaneity. They offered a comprehensive review of this literature and outlined the importance of helping behaviors to an organization’s success. Organizational research has supported this model, demonstrating that affect is related to prosocial behavior (Eisnenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001; George, 1991; Lee & Allen, 2002) and organizational commitment (Eisnenberger et al., 2001).

People in positive affective states are better able to influence others because they are more likable (Cialdini, 1984). Petty and Cacioppo’s (1986) Attitude-Change Model suggests that being in a positive affective state puts others in a similar state, enabling the
initial person to be more persuasive through both peripheral and central-route processing of communication.

*Motivational explanations.* Positive affect is also associated with greater levels of motivation (Baron, 1990; Hackman & Oldham, 1975, 1976). George and Brief (1996) suggested that affect may influence one’s motivational attention toward or away from organizational goals, by influencing both distal and proximal motivation (Kanfer, 1990). Distal motivation is how one chooses what job behavior to engage in and how much initial effort to exert. Proximal motivation is how motivated one is to persist with that behavior. Positive affect influences distal motivation by encouraging initial involvement and enthusiasm for work, and proximal motivation by motivating workers to continue to exert effort for the task.

Wright and Staw (1999) link positive affect to several theories of motivation, including expectancy theory, goal setting theory, and attributional theory. Positive affect is also associated with higher levels of self-esteem (Baron, 1990; Forgas, Bower, & Moylan, 1990; Sedikides, 1993; Wright & Mischel, 1982), which should be related to motivation. In terms of Goal Setting Theory (Locke & Latham, 1984; Locke, 1968), moderately difficult goals are important in creating motivation; but only if employees have the belief that they can achieve such difficult goals. Similarly, in accordance with VIE (valence-instrumentality-expectancy) Theory (Vroom, 1964), the expectancy facet requires that one believes he or she has the ability to exert the necessary effort to achieve the goal. If people do not believe that they have the ability to achieve the goal, then they will not be motivated, regardless of the valence or instrumentality of the outcome. Indeed, Erez and Isen (2002) found that affect influenced all three components of
motivation in terms of VIE Theory when participants knew that their performance could impact outcomes.

There is some evidence for the motivational influence of affect. George (1989) found that positive affect was negatively related to employee absenteeism, and George and Jones (1996) found that the relationship between job satisfaction and turnover intentions was strongest when workers’ jobs did not help them attain terminal values and positive affect. Such increases in positive behavior and decreases in negative behavior may influence organizational performance over time. Together, increases in decision-making ability, motivation, and interpersonal behavior should cause individuals experiencing positive affect to perform better than individuals experiencing negative affect. While little research has extended this paradigm to leadership (c.f., Staw & Barsade, 1993), this paper suggests that these findings should extend to leadership behavior.

Hypothesis 1: Leaders experiencing positive affect will exhibit better leadership behavior than leaders experiencing negative affect.

_leader Affect – Follower Affect_

In addition to the influence of leader affect on leader outcomes, leader affect should influence several follower outcomes. The first link in the proposed model is that leader affect should influence follower positive and negative affect through the process of emotional contagion.
Emotional Contagion

In addition to the other means by which people develop affective states, people influence each other’s affect. There is evidence that people can “catch” the affect of those with whom they interact through the process of emotional contagion (Hatfield, Cacioppo, & Rapson, 1992). There are two predominant perspectives as to how emotional contagion may occur. The first revolves around perception theories, or the idea that people infer their emotions by observing their own or others’ behaviors. For example, self-perception theory (Bem, 1972; James, 1890; Laird, 1974; Laird & Bresler, 1990) is based on the idea that individuals infer their own emotions by observing their behavior and its situational context. Other perception theories include the emotional similarity hypothesis (Schacter, 1957) and social comparison theory (Bandura, 1986). These theories all revolve around the premise that emotions are the result of labeling behavior and arousal.

However, these theories are deficient in their ability to describe emotional contagion in light of research demonstrating that people are often unable to recognize their own and others’ emotions (Strack, Martin, & Stepper 1988), yet still experience emotional contagion. In one such study, Neuman and Strack (2000) exposed participants to a neutral speech delivered in a slightly happy or sad voice. Participants were unable to recognize the speaker’s affective state, but they did appear to have experienced it at some level, as they subsequently delivered a speech in the same affective tone as the speech to which they were exposed. While perception theory cannot be ruled out as a mechanism for emotional contagion, perception is not the only mechanism by which emotional contagion occurs.
The predominant theory of how emotions are transmitted is primitive emotional contagion (Hatfield et al., 1992). Hatfield et al., (1992) suggested that individuals have an automatic and unconscious tendency to mimic and synchronize the facial expressions, vocalizations, postures, and movements of others. The unintentional process of imitating other behaviors, called motor mimicry (Bavelas, Black, Lemery, & Mullet, 1987; Chartrand & Bargh, 1999), cues the target to then feel the emotion that he or she is mimicking. A long line of research in social psychology has demonstrated that exposure to emotional stimuli can affect one’s facial expressions (e.g. Gump & Kulik, 1997; Lee & Wagner, 2002) and that exhibiting a particular facial expression can elicit the corresponding emotion (Adelmann & Zajonc, 1989; Laird & Bresler, 1992; Larsen & Kasimatis, 1990; Strack et al., 1988). The power of this effect is best illustrated by a study in which emotional contagion occurred for participants during two-minute silent interaction (Friedman & Riggio, 1981). Howard and Gengler (2001) demonstrated that facial feedback mediates the relationship between a sender's and receiver’s emotions.

While the majority of this research has used coders, who were blind to condition to rate facial expressions, recent research has yielded consistent results using more sophisticated measures, such as facial EMGs (Hess & Blairy, 2001; Lundqvist & Dimberg, 1995).

It is important to distinguish emotional contagion from the wealth of other, similar topics including social contagion, behavioral contagion, conformity, social pressure, imitation, modeling, social facilitation, primitive sympathy, sympathy, and empathy. In the case of emotional contagion, the focus is clearly on the transformation of one’s emotional state to more closely resemble another’s emotional state. Although social contagion relies, in part, on emotional contagion, social contagion is explained in terms
of Social Information Processing (SIP; Salanick & Pfeffer, 1978), or the idea that informational and social influences impact employees’ perceptions and attitudes about their work life. Perceptions of supervisor style, general working conditions, and task characteristics are influenced by the social context, and that social context provides acceptable reasons for action and focuses one’s attentions on certain information that should be deemed important. Pastor, Meindl, and Mayo (2002) assert that SIP is based on social comparison, dissonance, and balance processes (Festinger, 1954, 1957).

However, Meyer (1994) notes that the mechanisms behind SIP are vague, and while much of the work has focused on written communication, there are at least three other methods by which SIP can occur: simple contact, group affiliation/cohesion, and structural equivalence (same status). Meindl (1995) applied SIP in a leadership context with his “social construction” view of leadership in which attributions of leadership are less the outcome of a leader’s specific behaviors, and more an outcome of followers’ shared perspectives of that leader and/or the organization. Followers’ relationships with each other impact perceptions of a leader so that more dense, tightly knit groups of followers should hold more homogenous perceptions of their leader. Pastor, Meindl, and Mayo (2002) found that the distribution of the strength of charisma most strongly related to patterns of friendship among followers. While work on social contagion offers insight into how emotional contagion might function in the workplace, it is conceptually distinct from emotional contagion.

In behavioral contagion (Polansky, Lippitt, & Redl, 1950), conformity (Asch, 1956), and social pressure (Festinger, 1954), the outcome of focus is a change in one’s judgment, attitudes, and/or behavior. The outcomes of imitation (Miller & Dollard, 1941)
and modeling (Bandura, Ross, & Ross, 1963) are also behavioral, although they focus on
the role of operant conditioning as the impetus for the behavioral change. Social
facilitation (Thorpe, 1956) is the idea that changes in behavior result from an instinctual
response to a behavior exhibited by another person. For example, if one lights a cigarette,
others around him or her might light up as well. Behavioral contagion revolves around a
change in belief or behavior, not a change in affect. These concepts become confusing
because the outcomes may appear to be very similar. For example, when people undergo
behavioral contagion, they will change their behavior, but this change in behavior might
also result in a change in affect. Conversely, in emotional contagion a change in emotions
is the proximal outcome, and a change in behavior may be more distal.

The difference between emotional contagion and the other theories that focus on
emotions (e.g., primitive sympathy, sympathy, and empathy) is less obvious. Primitive
sympathy (McDougall, 1942), like social facilitation, is an instinctual response that is
elicited by the understanding of another’s emotions. This component of understanding
distinguishes primitive sympathy from emotional contagion in that emotional contagion
is an automatic response that does not require an understanding of others’ or one’s own
emotions. Sympathy (Gruen & Mendelsohn, 1986), however, is the compassion elicited
when one sees another in distress. This is distinct from emotional contagion in two ways.
First, in emotional contagion the receiver experiences the same emotion as the sender (i.e.
the sender is sad, so the receiver feels sad), while sympathy is a response to the emotions
of another, not the experience of the same emotion. The receiver does not “catch” the
emotion of the sender, but instead responds with a different emotion. Second, sympathy
is limited to one emotion, or group of emotions, that resemble compassion. Emotional contagion concerns all emotions: one can catch happiness, sadness, anger, or fear.

Empathy (Titchener, 1924) has a much broader and somewhat ambiguous definition (Eisenberg & Miller, 1987; Wispé, 1986). Levenson and Ruef (1992) reviewed the various definitions of empathy, including, (a) knowing what another is feeling, (b) feeling what another is feeling, (c) and responding compassionately to another’s distress, and they concluded that, “the ability to perceive accurately the feelings of another person is arguably the most fundamental aspect of empathy,” (p. 235). If this is a requirement for empathy, then emotional contagion is conceptually distinct in that it does not require one to have the ability to recognize an emotion for one to experience that emotion.

While emotional contagion is conceptually distinct from the constructs described above, it is often difficult to distinguish emotional contagion from the other constructs in practice. Particularly in complex experiments or interactions, it is difficult to assess which process is influencing the transfer of affect between persons. For the purposes of this research, emotional contagion is the defined as the “transfer of affect between persons.”

*Emotional contagion in organizational research.* As Domagalski (1999, p. 843) said, “The phenomenon of emotional contagion offers exciting possibilities for illuminating organizational analysis.” While previous research has established that the process of emotional contagion can and does occur, researchers have largely neglected the implications of emotional contagion. More recently, researchers have begun to tie emotional contagion to important outcomes, including product attitudes (Howard & Gengler, 2001) and customer service ratings (Pugh, 2001). Much of the work on
emotional contagion in organizational behavior has involved group processes, demonstrating that the contagion of positive affect is related to cooperation, task performance, and lower conflict (Barsade, 1995, 2002). Emotional contagion is more likely to occur in groups that have high task and social interdependence, membership stability, mood regulation norms (Bartel & Saavedra, 2000). Emotional contagion is also more likely to occur for individuals who are older and more committed to their groups (Totterdell, 2000; Totterdell, Kellett, Teuchmann, & Briner, 1998), as well as for individuals who self-report being more susceptible to emotional contagion (Totterdell, 2000).

Relatively little research, however, has examined the role of emotional contagion in leader–follower interactions. George and Brief (1992) suggested that “The moods of managers “rub off” on their subordinates. Leaders who are enthusiastic and peppy are more likely to affect positively their group’s affective tone than those who are dull and sluggish,” (p. 321). Yet, research has only begun to examine the implications of emotional contagion in leadership research (cf., Cherulnik et al., 2001; Lewis, 2000). In a study by Cherulnik et al. (2001), participants viewed a charismatic or non-charismatic stimulus. Participants who viewed the charismatic stimulus expressed more positive facial expressions than those who watched the non-charismatic stimulus. But, this study did not examine additional outcomes, such as resulting performance and leadership attributions. Lewis (2001) added the outcome of leadership perceptions, but this study did not demonstrate that follower affect mediated the relationship between leader affect and follower leadership perceptions. In addition, this study only focused on leader negative affect and did not examine performance.
Status. The dearth of research regarding emotional contagion and leadership is particularly surprising considering the link between emotional contagion and status. Leaders should have a strong influence on followers’ affect because one’s level of status is negatively related to his or her awareness of others’ feelings (Snodgrass, 1985) and followers may have more at stake if they do not attend to their leader’s affect than leaders have at stake for not attending to their followers’ affect. Attending to another person’s affective state is necessary for emotional contagion to occur (Hatfield et al., 1992, 1994). Hall, Carter, and Horgan (2001) manipulated interpersonal status and found that subordinates had better recall of their superiors’ nonverbal behavior than vice versa. While one study found the opposite of this prediction (i.e. the person in power was more influenced), this study used students portraying teachers and students (Hsee, Hatfield, Carlson, & Chemtob, 1990). The teachers may have felt that it was their job to be sensitive and comforting to their fictitious students. In a study using groups of children at summer camps, Polansky, Lippitt, and Redl (1950) found that one’s level of status influenced his or her ability to influence others’ affect through emotional contagion. This study was replicated and yielded consistent results (Lippitt, Polansky, & Rosen, 1952).

Hypothesis 2a: Followers exposed to a leader with positive affect will experience more positive affect than followers exposed to a leader with negative affect.

Hypothesis 2b: Followers exposed to a leader with negative affect will experience more negative affect than followers exposed to a leader with positive affect.
Leader Affect – Transformational Leadership

In addition to influencing follower affect, leader affect should influence follower perceptions of their leader. Recent theoretical advancements suggest that leader affect should also be important in an LMX framework (Dasborough & Ashkanasy, 2002), in leader emergence (Pescosolido, 2002), and in leadership in general (George, 2000). Newcombe and Askanasy (2002) found that followers’ perceptions of their leader’s positive affect led to higher ratings of the leader’s negotiating latitude. While leader expressed affect probably influences all types of leadership perceptions, this may be particularly true of perceptions of charismatic and transformational leadership. Ashforth and Humphry (1995) said that, “A good illustration of the relevance of emotion to motivation, leadership, and group dynamics is provided by the growing literature on transformational leadership” (p. 116).

Theoretical Background of Charismatic and Transformational Leadership

Charismatic and transformational leadership theories, based on the conceptions of Weber (1920), House (1977), and Burns (1978), and popularized by Bass (1985), explain the unique connection between leaders and followers that results in outstanding follower performance. The basis for these types of leadership is the relationship and emotional attachment between the leader and the follower (Bass, 1985). These types of leaders make each follower feel special, give each follower needed support, and engage each follower in a personal relationship (Fuller, Patterson, Hester, & Stringer, 1996; Kets de Vries, 1988).

Transformational leaders are thought to appeal to followers’ higher order needs, foster follower dedication to organizational goals, and increase follower self-confidence
and self-expectations. As a result, followers of transformational leaders take on greater responsibility, perform beyond expectations, and assume leadership roles themselves (Bass & Avolio, 1993, 1994). Bass and Avolio (1994) distinguish between three facets of transformational leadership: 1) attributed charisma, and the two behavioral components of 2) idealized influence and 3) inspiration motivation. Attributed charisma reflects the personal power and confidence associated with charismatic leadership. Idealized influence involves leader behavior related to serving as a role model for followers in which a leader stresses values and beliefs, moral behavior, and a strong sense of the collective mission. Inspiration motivation refers to leader behaviors aimed at adding meaning to followers' work, which typically results in an increase in follower enthusiasm. Together, these three facets comprise transformational leadership.

Leader Affect and Follower Attributions of Transformational Leadership

Leadership has been described as an attributional phenomenon in which followers ascribe certain characteristics to their leader based on his or her behavior (cf., Conger & Kanungo, 1987; Martinko & Gardner, 1987). Dasborough and Ashkanasy (2002) developed an attributional model specifically related to leader affect, in which they focus on the importance of leader expressed affect in follower attributions of leadership. When leader behavior involves the expression of positive affect, followers make attributions of charismatic and transformational leadership (Lewis, 2000; Newcombe & Askanasy, 2002). Lewis (2000) demonstrated that leader affect (e.g., angry, sad, or neutral) influenced follower affect and leadership perceptions, such that the neutral leader performed better than the sad or angry leader. Leader affect also influences follower attributions of leader self-confidence (Kirkpatrick & Locke, 1991), status (Tiedens,
2001), and credibility (Bucy, 2000). George (1996, p. 162) suggested that positive leader emotions, “convey a sense of efficacy, competence, optimism, and enjoyment.” Further, followers’ specific attributions lead to generalizations about their leader (Tiedens, 2001). When a leader displays positive affect, he or she is seen as more transformational.

Hypothesis 3: Followers exposed to a leader with positive affect will make greater attributions of transformational leadership than followers exposed to a leader with negative affect.

*Leader Affect – Follower Performance*

Recent interest in the topic of affect and leadership has demonstrated that leader affect is related to follower performance. George (1995) found that leader affect was related to follower customer service quality and George and Bettenhausen (1990) found that leader affect was related to work groups’ prosocial behavior. There are several explanations for the relationship between leader affect and follower performance. Leader affect may influence leader behavior, and thereby influence follower performance. For example, Staw and Barsade (1993) found that leaders with high levels of positive affect performed better than leaders with low positive affect on decision-making tasks, interpersonal interactions, and management processes. They concluded that leader affect is particularly important because of the number of decision-making and interpersonal tasks in which leaders engage.

In addition, there are several reasons why followers may work harder for leaders exhibiting positive affect. Leaders use positive affect to encourage followers’ positive thinking (Ashkanasy & Tse, 2000) and motivation (Bass & Avolio, 1994; Dubinsky, Yammarino, Jolson, & Spangler, 1995). While these mediating effects will be explained
in the sections that follow, there is still reason to believe that leader affect will directly influence follower performance.

Hypothesis 4: Followers exposed to a leader with positive affect will perform better than followers exposed to a leader with negative affect.

Indirect Effects

In addition to the main effects described thus far, there are several potential mediating effects between the constructs of interest. In the following sections, I will describe what I believe to be the mediated relationship between leader affect, follower affect, follower attributions of transformational leadership, and follower performance.

Mediating Effects of Follower Affect

Follower attributions of leadership. If followers “catch” their leader’s affect, followers’ subsequent evaluations of the leader and performance should be influenced by that affect. Followers experiencing positive affect might think more positively of their leader than followers experiencing negative affect because positive affect causes people to perceive other people and situations in a more positive light (Bell, 1978; Bower, 1981; Carson & Adams, 1980; Clark & Teasdale, 1985; Forgas, Bower, & Krantz, 1984; Galizio & Hendrick, 1972; Gouaux, 1971; Isen & Shalker, 1982; Isen, Shalker, Clark, & Kamp, 1978; Izard, 1964; Janis, Kaye, & Kirschner, 1965; Teasdale & Fogarty, 1979). Whether it is due to explanations involving affect-priming or affect-as-information, followers experiencing positive affect should attribute greater levels of transformational leadership to their leaders than followers experiencing negative affect.
Hypothesis 5a: Follower positive affect will mediate the relationship between leader affect and follower attributions of transformational leadership.

Hypothesis 5b: Follower negative affect will mediate the relationship between leader affect and follower attributions of transformational leadership.

**Follower performance.** The theoretical rationale for why leader affect should influence performance extends to followers. Supporting previous theory, McColl-Kennedy and Anderson (2002) found that follower affect mediated the relationship between leader affect and follower performance. Specifically, transformation leadership behavior influenced sales performance, as mediated by frustration and optimism. Thus follower affect is predicted to mediate the relationship between leader affect and follower performance.

Hypothesis 6a: Follower positive affect will mediate the relationship between leader affect and follower performance.

Hypothesis 6b: Follower negative affect will mediate the relationship between leader affect and follower performance.

**Mediating Effects of Transformational Leadership**

**Follower performance.** Charismatic leadership is associated with increases in follower performance (Howell & Frost, 1989; Fuller et al., 1996). Howell and Frost (1989) examined experimental conditions in which a group task was led by either a transformational, considerate, or structuring leader, in either (experimentally manipulated) high or low productivity groups. Groups led by the transformational leader
had higher task performance than the structuring and considerate groups, in both the high and low productivity groups. Waldman, Bass, and Yammarino (1990) found that there was a difference between the performance effects of transformational leadership and other performance enhancers. They found that placing a transformational leader in a group that already had an incentive system further improved performance, whereas introducing an incentive system in a group that already had a transformational leader had no effect.

Hypothesis 7: Follower attributions of transformational leadership will mediate the relationship between leader affect and follower performance.

The Current Research

The studies that follow examine the impact of affect and emotional contagion in a leadership context. The first study will examine the influence of induced affect on leader behavior. In addition, this study will provide the stimulus materials for the second study. Study 2 will examine the remainder of the hypothesized relationships and test the proposed model. Specifically, leader affect should influence follower attributions of transformational leadership and performance directly, and through the mediating factors of follower positive and negative affect. Study 3 was designed to replicate the model proposed in Study 2, using a field study of leaders and followers to extend the generalizability of the findings.

Study 1

The main goal of Study 1 was to develop the stimulus materials for Study 2. In addition, this study examined the influence of leader affect on leadership behavior.
Leaders in the positive affect condition should exhibit better leadership behavior than leaders in the negative affect condition.

Participants

Participants included students from a first year class of Masters in Business Administration (MBA) at a small private university in the southwest. Forty-two students volunteered to participate, comprised of 30 (71.4%) men and 12 (28.6%) women. Participants identified themselves as Caucasian ($n = 23, 54.8$%), Asian ($n = 11, 26.2$%), Hispanic ($n = 4, 9.5$%), or African American ($n = 2, 4.8$%). Two additional participants failed to indicate their race ($n = 2, 4.8$%). Participants ranged in age from 22 to 32 ($M = 27.44, SD = 2.40$). All participants had previous work experience with an average of 4.85 years ($SD = 1.94$, range 1 – 9 years). The majority of the participants also reported having had previous supervisory experience (73.8%). Participants came from a wide variety of industries including consulting, finance, marketing, and sales.

Procedure

Participants arrived at the laboratory where they completed an informed consent statement. After consenting to participate, they underwent an affect induction procedure, consisting of winning or losing a small gift (e.g., a $5 gift certificate to a local coffee shop). Providing a small gift to induce positive affect has been widely used in previous research (e.g., Isen & Geva, 1987; Isen & Patrick, 1983; Isen & Shalker, 1982). More specifically, they were told that as a way of thanking them for their participation half of the participants would receive a $5 gift certificate to a coffee shop. The experimenter presented the participants with two envelopes. One envelope contained the winning certificate (“Congratulations, you won the gift certificate”) and the other contained the
losing certificate ("Sorry, you did not win the gift certificate"). The experimenter was
blind to which envelope contained the winning certificate and this procedure was used to
determine the random assignment of participants to conditions. This procedure was used
to induce both positive and negative affect.

After the affect induction, participants were given the manipulation check (a
measure of state affect) and a set of written instructions on how to complete their
leadership task. They were asked to assume the role of "Pat Jackson," a recruitment
manager for Amidex Corporation, for the duration of the experiment. Their task involved
learning and disseminating information about a company's new recruiting procedure to a
group of recruiters. The task consisted of two phases. In the first phase, participants had
60 minutes to read a stimulus packet and prepare a speech. When the participants were
done preparing their speech, they went to a second room where they delivered their
speech to a video camera. They were given no guidelines as to the length of the speech. A
second experimenter, who was blind to the condition to avoid experimenter bias, operated
the camera equipment for most of the participants. After the speech, participants were
debriefed and all participants were given the gift certificate to thank them for their
participation.

*Stimulus Packet*

The stimulus packet contained information describing the "character" that the
participants were to portray, their company, the objectives of the recruitment program,
and the specific details as to how to complete the resumé screening task (see Appendix
A). The materials stated that one of the goals of the recruitment program was to increase
diversity in the company by focusing on excellence in areas other than strict academic
performance. This task has been used in previous research and has demonstrated validity as a leadership task (Towler, 2003).

**Measures**

*Job Affect Scale (JAS).* The JAS (Brief et al., 1988) consists of 20 items describing positive and negative affect (Appendix B). It is based on the framework provided by Watson and Tellegen (1985). Six items fall under the category of high positive, four under low positive, six under high negative, and four under low negative. Participants are asked to indicate how they feel “right now” as a measure of state affect. Sample items include: distressed, enthusiastic, and relaxed. Answers are recorded on 5-point scale ranging from *very slightly or not at all* (1) to *very much* (5). Only the high positive and high negative subscales were used.

*Speech preparation time.* The amount of time participants spent preparing their speech was recorded. Participants had up to 60 minutes to prepare the speech, and preparation times ranged from 12 to 60 minutes, with an average preparation time of 37.59 (SD = 12.29) minutes.

*Speech time.* The length of each speech was also recorded. The speech times ranged in length from 2 minutes to 14.50 minutes with an average length of 5.61 minutes (SD = 2.63).

*Nonverbal behavior.* Three coders watched one-minute clips of all of the speeches and rated the leaders on nonverbal behavior in terms of eye-contact, gesturing, and speech fluidity. There were adequate levels of agreement between coders on all three items: eye contact (α = .75), gesturing (α = .82), speech fluency (α = .73).
Speech effectiveness. Each of the leadership speeches was also transcribed to obtain a measure of content effectiveness. The transcripts were free from verbal disfluencies (e.g., uhs, ums) and grammatical errors to enhance the readability of the speeches. The speech transcribers and copy editors were blind to the condition so as to reduce potential experimenter bias in this process. Each of the transcribed speeches were rated by three undergraduate coders, each of whom rated 10 – 11 speeches. In total, 12 coders participated in the rating process.

The transcripts were rated on the extent to which they covered 12 details described in the stimulus packet (see Appendix C). Before aggregating across raters, intra class correlations were conducted for each of the 12 items. Two of the items had low agreement between raters: “The speech mentioned that Amidex is looking for future leaders of the company” (α = .26) and “The speech mentioned that the resumé screener should provide comments about each applicant” (α = .45). These items were eliminated. The other items had adequate levels of reliability ranging from α = .70 to α = .88, with an average α of .83. These items were subjected to an exploratory factor analysis with a Varimax rotation, which yielded two factors.

The first factor consisted of items regarding the process of rating the resumés, “The speech said the resumé screeners would rate 12 resumés,” “The speech said the recruiters should choose the top two candidates,” and “The speech said the recruiters should write a letter to the top candidate.” The other factor consisted of three items that were non-process oriented, “The speech provided information about his/her background,” “The speaker attributed his/her success to the management training program,” and “The speech talked about Jose Fernandez.” Both the process oriented (Cronbach’s α = .82) and
non-process oriented (Cronbach’s $\alpha = .76$) scales had adequate levels of internal consistency.

Results

Intercorrelations are presented in Table 1. As a manipulation check for the affect induction, two univariate analysis of variance (ANOVAs) were conducted with condition (positive affect, negative affect) as the independent variable and positive and negative affect as the dependent variables. The ANOVA for positive affect did not reveal a significant effect for condition $F(1, 40) = .65, p > .05, \eta^2 = .02$. Participants in the positive affect condition ($M = 3.10, SD = .85$) reported slightly higher levels of positive affect than those in the negative affect condition ($M = 2.90, SD = .68$). The ANOVA for negative revealed the expected effect $F(1, 40) = 4.90, p = .03, \eta^2 = .11$ with participants in the positive affect condition reporting less negative affect ($M = 1.38, SD = .33$) than those in the negative affect condition ($M = 1.71, SD = .61$).

To test the Hypothesis, (Leaders experiencing positive affect will exhibit better leadership behavior than leaders experiencing negative affect) ANOVAs were conducted for each of the dependent variables. Both speech preparation time $F(1, 40) = 4.21, p = .047, \eta^2 = .10$ and speech length $F(1, 40) = 4.96, p = .03, \eta^2 = .11$ had significant differences between conditions. Participants in the positive affect condition spent more time preparing their speeches ($M = 41.38, SD = 10.37$) and delivered longer speeches ($M = 6.48, SD = 3.13$) than participants in the negative affect condition ($M = 33.86, SD = 13.22; M = 4.75, SD = 1.69$).

There was also a difference between conditions on the extent to which leaders discussed details that directly related to the résumé screening process ($F(1, 40) = 4.96, p$
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<td>1. Condition¹</td>
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<td>3. Negative affect</td>
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<td>4. Speech preparation</td>
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<td>5. Speech length</td>
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<td>6. Non-process oriented</td>
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<td>7. Process oriented</td>
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<td>8. Eye contact</td>
<td>4.40</td>
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<td>.38*</td>
<td>-.18</td>
<td>-.15</td>
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<td>9. Gesturing</td>
<td>3.43</td>
<td>1.22</td>
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<td>10. Speech fluidity</td>
<td>4.17</td>
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<td>.34*</td>
<td>.32*</td>
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<td>.64***</td>
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Note. * n = 42. ¹ Condition was coded as 1 = negative affect, 2 = positive affect. * p < .05, ** p < .005, *** p < .001.
Leaders in the positive affect condition \((M = .84, SD = .27)\) discussed more process-oriented details than leaders in the negative affect condition \((M = .61, SD = .37)\). The was no significant difference between the positive \((M = .42, SD = .35)\) and negative \((M = .32, SD = .36)\) affect conditions on the non-process oriented details \(F(1, 40) = .86, p > .05, \eta^2 = .02\).

There was no significant difference between conditions on the nonverbal behaviors of eye contact \(F(1, 40) = 2.14, p > .05, \eta^2 = .05\), or gesturing \(F(1, 40) = .97, p > .05, \eta^2 = .02\), but there was a significant effect for speech fluency \(F(1, 40) = 5.11, p = .02, \eta^2 = .11\). The means for eye contact (positive affect \(M = 4.61, SD = .83\); negative affect \(M = 4.19, SD = 1.01\)), gesturing (positive affect \(M = 3.62, SD = 1.26\), negative affect \(M = 3.25, SD = 1.19\)), and speech fluency (positive affect \(M = 4.48, SD = .81\), negative affect \(M = 3.89, SD = .93\)) were all in the expected direction.

**Discussion**

Study 1 tested the impact of induced affect on leadership behavior. Leaders in the positive affect condition spent more time preparing their speeches and delivered longer speeches than leaders in the negative affect condition. Leaders in the positive affect condition also provided better explanations of how to complete the résumé screening task and exhibited greater speech fluency than leaders in the negative affect condition. These findings provide some evidence that affect influences leadership behavior.

However, the nonverbal behaviors of eye-contact and gesturing did not reveal the expected difference between conditions. Is possible that these characteristics are not influenced by affect, or that the sample was too small to uncover differences between conditions. Indeed, the means were in the expected direction with leaders in the positive
affect condition exhibiting greater eye-contact and gesturing than leaders in the negative affect condition. In addition, the second content measure: focusing on non-process-oriented details, did not yield the expected difference between conditions. However, given a limited amount of time, choosing to focus on information that is directly relevant to performing the résumé screening task may have been more important to effective leadership.

One concern of this study was the strength of the affect manipulation. The manipulation was intended to induce either positive or negative affect. Participants only differed on the extent to which they reported negative affect, and this effect was quite small. This finding was surprising in that the manipulation used in this study has been used frequently used in past research to induce positive affect. One explanation for the lack of difference on positive affect may have involved social desirability in responding. It is possible that characteristics associated with positive affect, such as "enthusiastic," are characteristics that most individuals would prefer to ascribe to themselves. Participants may have responded more favorably to those items regardless of how they actually felt.

A second concern regarding the affect manipulation is that the positive affect manipulation may have also induced the norm of reciprocity (Cialdini, 1993). That is, participants may have worked harder because they were reciprocating for receiving the small gift, rather than because they were in a positive affective state. However previous research has demonstrated that the manipulation of receiving a small gift is similar to other affect manipulations. For example, Erez and Isen (2002) found that an affect manipulation of giving participants a small gift produced similar results as an affect
manipulation in which participants read affect laden words, in terms of motivation and performance. A final limitation of this study was the use of students as leaders in a fake leadership situation. However, these students were MBAs with previous work and leadership experience. Although they may have had little vested interest in this study, most spent a great deal of effort preparing and delivering their speeches.

Despite the sum of these limitations, this study offered a well-controlled test of the relationship between affect and leader behavior. While previous research has linked positive affect to leadership, the current study demonstrated that positive affect can cause better leadership behavior. Specifically, induced affect influenced the amount of time leaders spent preparing their speeches and the length of those speeches. Further, affect influenced speech fluidity and the effectiveness with which leaders described the resumé screening task.

**Study 2**

Study 2, a second laboratory study, was designed to examine the effects of leader affect on follower outcomes, as described in Hypotheses 2 – 7. Using a between-subjects design, participants in this study watched a videotape of one of the leaders from Study 1 from either the positive affect condition or the negative affect condition. It was expected that leader affect (positive or negative) would influence follower positive and negative affect (Hypotheses 2a, 2b), attributions of transformational leadership (Hypothesis 3), and performance (Hypothesis 4). In addition, follower positive and negative affect was predicted to mediate the relationship between leader affect and follower ratings of transformational leadership (Hypothesis 5a, 5b) and performance (Hypothesis 6a, 6b).
Finally, follower attributions of transformational leadership was predicted to mediate the relationship between leader affect and follower performance (Hypothesis 7).

Participants

Study 2 consisted of 200 participants from two universities in the southwest. About half of the participants were from a small private university ($n = 107, 53.2\%$), and the remainder were from a large public university ($n = 94, 46.8\%$). The majority of the participants were women ($n = 120, 59.1\%$), and Caucasian ($n = 120, 59.1\%$). There were also 26 Asian (12.8\%), 19 Black (9.4\%), and 26 Hispanic (12.8\%) participants. Twelve (5.9\%) participants failed to indicate their race. The participants ranged in age from 17 to 51 years ($M = 23.84, SD = 6.79$). The majority of the sample was undergraduate students ($n = 148$), but there were also 53 graduate students. Most of the participants had some previous work experience ($n = 168, 96.1\%$) with the average being 5.63 years ($SD = 6.53$). Eighty-five (41.9\%) of the participants had previous supervisory experience.

Stimulus Selection

From the 42 leader speeches collected in Study 1, four speeches were chosen for use in Study 2 (Appendix D). Only the 20 White men were considered for use to avoid potential effects of leader race and gender. These tapes were coded for several external features including clothing style, age, facial disfigurements, and facial hair. The goal was to choose four speakers who were dressed similarly, had similar appearances, were similar in age, and had the absence of any distracting features. Of the 20 White men, four were eliminated for being underdressed (wearing t-shirts) and one was eliminated for being overdressed relative to the other participants (wearing a tie). Four additional participants were eliminated based on their age. It is unclear whether appearing older
would positively or negatively influence leadership perceptions, but for the sake of consistency these individuals were eliminated. Two participants were eliminated for having facial distractions. One person was eliminated for having a strong accent and one was eliminated because his speech was too long (14.5 minutes).

After these eliminations, there were two leaders remaining in the negative affect condition and five leaders remaining in the positive affect condition. From the five in the positive affect condition, the two with the highest self-reported positive affect were chosen for use in Study 2. The chosen leaders resembled the other leaders in their respective conditions. The mean speech fluidity for the positive affect condition was 4.48 and for the negative affect condition was 3.87. For the chosen positive and negative affect leaders the mean speech fluidity was 4.23 and 3.80, respectively. For process-oriented details, the means for the positive and negative affect conditions were .76 and .59, respectively. For the chosen leaders the means were .96 and .56, respectively. In terms of speech length, the means were 6.48 and 4.74 for the positive and negative affect conditions. The mean speech lengths for the chosen positive and negative affect leaders were 6.5 and 3.75.

Procedure

Participants were randomly assigned to one of the two conditions (positive or negative affect) as well as one of the two leader videos for that condition. At the small private university, participants viewed the tapes alone in a room. At the large public university, they watched the tapes with students from the rest of their class. At the end of the tape, the participants were asked to complete a series of measures, including self-reported affect (JAS), a rating of their leader’s transformational leadership (MLQ), and a
manipulation check. Then, participants worked on the selection task described in the video. They were given 45 minutes to complete the task, which consisted of evaluating resumés of applicants for a management training program, and writing a letter to the top candidate persuading him or her to join the organization.

Measures.

Manipulation check. The manipulation check consisted of three items measuring the extent to which the leaders in the videos appeared to express positive affect. The items were, “The manager appeared happy,” “The manager was in a good mood,” and “The manager expressed positive emotions.” There was a high level of internal consistency among the items (Cronbach’s $\alpha = .93$)

Job Affect Scale (JAS). Same as Study 1

Multifactor Leadership Questionnaire (MLQ-5X/Short Form). Three subscales from Bass and Avolio’s (1995) leadership questionnaire were used to measure Transformational Leadership: Idealized Influence, Inspiration Motivation, and Attributed Charisma (see Appendix E). Ratings are made on a 5-point Likert-type scale anchored with 0 = not at all and 4 = frequently, if not always. An example of the question for Idealized Influence is, “Talks about his most important values and beliefs.” An example of an item from Inspiration Motivation is, “Expresses confidence that goals will be achieved.” An example of Attributed Charisma is, “Acts in ways to build your trust.” Because of the high level of internal consistency of the scale (Cronbach’s $\alpha = .90$) and the theoretical basis for the conceptual connections between the subscales (Bass, 1985, 1990), an overall measure of transformational leadership was used. Further, the
constructs tapped by these scales were originally conceptualized as a measure of a single construct (Bass, 1988).

**Performance**

The performance task used in the current study was adapted from Towler (2003). In the original development of this task, experts rated each of the applicants for the management training program. In short, six graduate students in Industrial/Organizational Psychology rated each of the 12 resumés to determine the quality or each of the resumés, given the criteria used in this experiment. These criteria included willingness to work hard, innovation, cooperation, and leadership ability. There was an adequate level of agreement between raters ($\alpha = .83$). After the initial ratings, the coders discussed the ratings and agreed on a final set of ratings for each resumé.

**Performance accuracy.** The participants in this study ranked each of the 12 resumés in terms their quality (see Appendix F). The first measure of performance was the agreement between the rankings produced by the participants and those determined by the coders. The agreement score was calculated by taking the absolute value of the difference between the “correct” rankings and the given rankings. For example, the top candidate should have received a ranking of 12. If a participant ranked him as a six, then that participant would receive a value of six for that ranking. In the end, the sum of the values were taken and the total was multiplied by negative one so that a higher score would indicate a better score.

**Rating of the top candidate.** The top candidate, as determined by the coders, was a Black man with extensive experience in the criteria used in this experiment (e.g.,
willingness to work hard, innovation, cooperation, and leadership ability). As a second measure of performance, participants’ rating of the top candidate was computed.

*Commitment to vision.* As a third measure of performance, the ratings of the top Black female were examined. Because one goal of the organization was to hire individuals who would add diversity to the organization, while maintaining high quality managers, commitment to vision was operationalized as participants’ rating of the top Black female candidate.

*Letter.* Participants wrote a letter to their top candidate, persuading him or her to join Amidex. Each letter was rated by three undergraduate students on a measure of quality (see Appendix G). Items included, “The letter expressed optimism for the applicant’s future at Amidex,” “The letter was high quality,” and “The letter was persuasive.” There was an adequate level of agreement between raters ($\alpha = .76$) and the scale had high internal consistency (Cronbach’s $\alpha = .92$). Performance on the letter-writing task was the fourth and final measure of follower performance.

*Performance.* To calculate overall performance the mean was taken of the z-scores of the facet measures of performance. One concern over the performance measure was that “performance accuracy” involved the use of difference scores. Because of the concerns over the use of difference scores as dependent variables (Edwards, 1995), performance was also calculated as the mean of the other three variables. All of the analyses were conducted with both the three-facet and four-facet measures of performance. There were no differences in the results when the three or four-facet measure was used, so the four-facet measure was used.
Results

Intercorrelations of all variables in the model are reported in Table 2. All of the variables had adequate levels of reliability, except for the measure of high negative affect. The Cronbach’s α for this scale was .58, which is well below the accepted standard of .70 (Guion, 1998). To deal with this concern, the JAS subscale of hostility was used instead of high negative affect. The measure of hostility had an adequate level of reliability (α = .71).

Plan of analysis. Data analysis was conducted in three steps. First, to examine the direct effects of leader affect on follower outcomes a Multivariate Analysis of Variance was conducted with condition as the between subjects variable. Second, to test the indirect effects a series of mediation tests were conducted. Third, the overall model was tested using structural equation modeling.

Manipulation check. First, the manipulation check for leader affect was tested. A 2 X 2 Analysis of Variance (ANOVA) was conducted with condition and stimulus as the independent variables. The goal of the test was to check whether participants in the positive affect condition (those who watched a leader who received a positive affect induction) rated him as expressing more positive affect than participants in the negative affect condition (those who watched a leader who received a positive affect induction). In addition, the manipulation check examined whether there were differences between stimuli in each of the conditions. That is, because there were two stimuli from the positive affect condition and two stimuli from the negative affect condition, I tested the extent to which there were differences between the stimuli for each condition.
Table 2

Intercorrelations between variables in Study 2

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Leader affect†</td>
<td>0.54</td>
<td>.50</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. High positive mood</td>
<td>2.27</td>
<td>.85</td>
<td>.26***</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Hostility</td>
<td>1.26</td>
<td>.55</td>
<td>-.21**</td>
<td>-.07</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Attributions of transformational leadership</td>
<td>2.03</td>
<td>.84</td>
<td>.38***</td>
<td>.40***</td>
<td>-.19**</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Performance accuracy</td>
<td>-21.08</td>
<td>.16</td>
<td>.16*</td>
<td>-.03</td>
<td>-.11</td>
<td>.03</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Rating of top candidate</td>
<td>5.87</td>
<td>.89</td>
<td>.20**</td>
<td>.13</td>
<td>-.19**</td>
<td>.20**</td>
<td>.15*</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Acceptance of vision</td>
<td>5.85</td>
<td>.89</td>
<td>.14*</td>
<td>.10</td>
<td>-.18**</td>
<td>.19**</td>
<td>.26***</td>
<td>.54***</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Letter performance</td>
<td>3.30</td>
<td>.61</td>
<td>.25***</td>
<td>.04</td>
<td>-.21**</td>
<td>.09</td>
<td>.26***</td>
<td>.30***</td>
<td>.37***</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>9. Overall performance</td>
<td>0.00</td>
<td>.70</td>
<td>.27***</td>
<td>.09</td>
<td>-.25***</td>
<td>.19**</td>
<td>.60***</td>
<td>.78***</td>
<td>.71***</td>
<td>.69***</td>
<td>–</td>
</tr>
</tbody>
</table>

Note. n = 200. † Leader affect was coded as 1 = negative affect, 2 = positive affect. * p < .05, ** p < .005, *** p < .001.
The ANOVA revealed a significant effect for condition \( F(1, 196) = 15.09, p < .001, \eta^2 = .07 \) and the means were in the expected direction (positive affect \( M = 3.44, SD = .98 \); negative affect \( M = 2.64, SD = 1.04 \)). There was no effect for stimulus \( F(1, 196) = .65, p > .05, \eta^2 = .00 \) nor the condition by stimulus interaction \( F(1, 196) = 1.98, p > .05, \eta^2 = .01 \). These analyses suggest that the manipulation of leader affect was successful, and that there were no differences between the two positive affect leaders or the two negative affect leaders. From this point forward the two stimuli for each condition were collapsed.

**Test of Hypotheses**

*Direct effects.* The direct effects of leader affect on follower positive affect, follower negative affect, follower attributions of transformational leadership, and follower overall performance were examined to test Hypotheses 2a, 2b, 3, and 4, using a Multivariate Analysis of Variance (MANOVA). There overall model was statistically significant (Wilks’ \( \lambda = .80, F(4, 195) = 12.48, p < .001, \eta^2 = .20 \)) and there was a significant effect for leader affect on each of the outcome variables (Table 3). Therefore, each of the Hypotheses was supported.

*Indirect effects.* Several partial mediations were also hypothesized. To test for mediation the steps outlined by Baron and Kenny (1986) were followed. The independent variable must affect the mediator and the dependent variable. In addition, the independent variables must affect the dependent variable. Next, the mediator must affect the dependent variable when accounting for the effects of the independent variables on the dependent variable. Finally, the relationship between the independent variable and the dependent variable should be reduced when controlling for the mediator.
Table 3

Effect of leader affect on follower outcomes in Study 2

<table>
<thead>
<tr>
<th></th>
<th>Negative affect</th>
<th>Positive affect</th>
<th>$F$</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
<td>$SD$</td>
</tr>
<tr>
<td>High Positive Affect</td>
<td>2.03</td>
<td>0.78</td>
<td>2.47</td>
<td>0.86</td>
</tr>
<tr>
<td>Hostility</td>
<td>1.39</td>
<td>0.69</td>
<td>1.16</td>
<td>0.35</td>
</tr>
<tr>
<td>MLQ Ratings</td>
<td>1.69</td>
<td>0.80</td>
<td>2.32</td>
<td>0.77</td>
</tr>
<tr>
<td>Performance</td>
<td>-0.20</td>
<td>0.77</td>
<td>0.17</td>
<td>0.57</td>
</tr>
</tbody>
</table>

Note. $n = 200$. * $p < .05$, ** $p < .005$, *** $p < .001$
To test Hypotheses 5a and 5b, that follower positive and negative affect will mediate the relationship between leader affect and follower attributions of transformational leadership, a test of mediation was conducted. Leader affect was the independent variable, follower positive and negative affect were the mediating variables, and follower attributions of transformational leadership was the dependent variable. The first and second criteria were satisfied such that leader affect influenced both of the mediators and both of the mediators influenced follower attributions of transformational leadership (Table 2).

As the next step in testing for mediation, leader affect was entered in Step 1 of a hierarchical regression followed by follower positive and negative affect in Step 2. There was a significant increase in the $R^2$ when the second step was added into the equation (Table 4). The effect for follower positive affect was still significant after accounting for leader affect ($\beta = .32, t(196) = 4.98, p < .001$), but the effect for negative affect did not reach conventional levels of significance ($\beta = -.17, t(196) = 1.74, p = .08$). The effect of leader affect on follower attributions of transformational leadership was reduced, although it remained statistically significant, providing evidence of partial mediation (Table 4). Therefore, Hypothesis 5a was supported, while 5b was not.

Hypotheses 6a, 6b, and 7, suggested that follower positive affect, negative affect, and attributions of transformational leadership would mediate the relationship between leader affect and follower performance. A second test of mediation was used to examine these three hypotheses. Again, the first and second criteria were established in that leader affect was related to each of the mediating variables and the mediating variables were related to performance (Table 2). To test the next criterion for mediation, leader affect
Table 4

*Mediating effects of follower positive and negative affect on the relationship between leader affect and follower attributions of transformational leadership.*

<table>
<thead>
<tr>
<th></th>
<th>Step 1</th>
<th></th>
<th>Step 2</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\beta$</td>
<td>$R^2$</td>
<td>$\Delta R$</td>
<td>$\beta$</td>
<td>$R^2$</td>
</tr>
<tr>
<td>Leader affect</td>
<td>.63***</td>
<td>.14</td>
<td>.14***</td>
<td>.46***</td>
<td></td>
</tr>
<tr>
<td>Follower positive affect</td>
<td></td>
<td></td>
<td></td>
<td>.32***</td>
<td></td>
</tr>
<tr>
<td>Follower negative affect</td>
<td>-.17</td>
<td>.25</td>
<td>.07***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Follower positive affect</td>
<td>.38***</td>
<td></td>
<td>.32***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Follower negative affect</td>
<td>-.25*</td>
<td>.18</td>
<td>.18***</td>
<td>-.17</td>
<td></td>
</tr>
<tr>
<td>Leader affect</td>
<td></td>
<td></td>
<td>.46***</td>
<td>.25</td>
<td>.11***</td>
</tr>
</tbody>
</table>

*Note. n = 200. * $p < .05$, ** $p < .005$, *** $p < .001$*
was entered into Step 1 of a hierarchical regression equation and follower positive affect, follower negative affect, and follower attributions of transformational leadership were entered into the second step of the regression equation. Follower performance was the dependent variable.

Follower negative affect added significant variance beyond leader affect, while follower positive affect and attributions of transformational leadership did not (Table 5). The effect for follower negative affect was ($\beta = -.24, t(195) = -2.73, p < .01$). When the mediating variables were controlled for the relationship between leader affect and follower performance was reduced, although it was still significant (Table 5). Therefore, there is evidence that follower negative affect partially mediated the relationship between leader affect and follower affect, in support of Hypothesis 6b. Hypotheses 6a and 7 were not supported.

*Test of the Overall Model*

To test the overall hypothesized model, the structural equation modeling package, Amos (Arbuckle, 1997), was used. Structural equation modeling (SEM) allows one to test all of the hypothesized relationships in a given model at once and determines the extent to which the proposed model is consistent with the data (Byrne, 2001). In addition to providing an overall fit of the model, SEM provides correlations between the hypothesized variables. The coefficients from the SEM were consistent with the tests of direct effects and mediation (Figure 2). Leader affect was related to follower positive affect, follower negative affect, follower attributions of transformational leadership, and follower performance.
Table 5

*Mediating effects of follower positive and negative affect and attributions of transformational leadership on the relationship between leader affect and follower performance.*

<table>
<thead>
<tr>
<th></th>
<th>Step 1</th>
<th></th>
<th></th>
<th>Step 2</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\beta$</td>
<td>$R^2$</td>
<td>$\Delta R$</td>
<td>$\beta$</td>
<td>$R^2$</td>
<td>$\Delta R$</td>
</tr>
<tr>
<td>Leader affect</td>
<td>.37***</td>
<td>.07</td>
<td>.07***</td>
<td>.2***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Follower positive affect</td>
<td></td>
<td></td>
<td></td>
<td>.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Follower negative affect</td>
<td></td>
<td></td>
<td></td>
<td>-.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Follower attributions of transformational leadership</td>
<td></td>
<td></td>
<td></td>
<td>-.24**</td>
<td>.11</td>
<td>.04*</td>
</tr>
<tr>
<td>Follower positive affect</td>
<td></td>
<td>.01</td>
<td></td>
<td>-.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Follower negative affect</td>
<td></td>
<td>-.28**</td>
<td></td>
<td>-.24**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Follower attributions of transformational leadership</td>
<td></td>
<td>.11</td>
<td>.08</td>
<td>.08**</td>
<td>.06</td>
<td></td>
</tr>
<tr>
<td>Leader affect</td>
<td></td>
<td></td>
<td></td>
<td>.28**</td>
<td>.11</td>
<td>.03**</td>
</tr>
</tbody>
</table>

*Note. n = 200. * $p < .05$, ** $p < .005$, *** $p < .001$*
Figure 2. Tested structural equation model from Study 2 of the relationship between leader affect, follower affect, follower ratings of transformational leadership, and performance.
Leader positive affect was related to attributions of transformational leadership. Follower negative affect was also significantly related to follower attributions of transformational leadership. Follower negative affect was also related to performance, as was found in the test of mediation.

Model fit. Maximum likelihood estimation was used to estimate the overall fit of the model. The overall fit of the model was supported. Although a model cannot be confirmed, the goodness-of-fit statistics provide information on whether the model should be accepted (Pedhauzer, 1982). In line with Jaccard and Wan’s (1996) suggestion, a fit statistic from each of the following categories was used to reflect diverse criteria: goodness-of-fit tests based on predicted versus observed covariances, goodness-of-fit tests comparing the given model with an alternative model, and goodness-of-fit tests based on predicted versus observed covariances but penalizing for lack of parsimony.

Analysis of fit statistics from each of the above categories indicated that the path model was acceptable. The overall chi-square test for the model was not significant, $\chi^2(1) = 0.10, p = .76$, indicating that there was no statistically significant departure from the specified model. A measure of residual fit, the root-mean-square error of approximation (RMSEA), was .00. Browne and Cudeck (1993) suggested that .05 or less indicates a close fit. The goodness-of-fit index (the comparative fit index; CFI) was 1.00, indicating a very good fit (Arbuckle, 1997). Recent developments suggest that CFI should be > .95 to determine a good fit (Hu & Bentler, 1999). Together, the fit indices suggest that the hypothesized model fit the data well.
Discussion

The primary goal of this study was to test the impact of affect and emotional contagion in leader–follower interactions. While there has been an increase in theoretical attention paid to the role of affect in leadership (e.g. George, 2000), little experimental research has examined this relationship. This study established that emotional contagion can play an important role in leader–follower interactions by influencing follower affect, attributions of transformational leadership, and performance. Emotional contagion occurred between leaders and followers, such that followers exposed to a leader from the positive affect condition in Study 1 reported greater levels of positive affect than followers exposed to a leader from the negative affect condition from Study 1. Likewise, followers exposed to a leader from the negative affect condition reported greater levels of negative affect than followers exposed to a leader from the positive affect condition. This is a particularly powerful finding in that the leader stimuli were not manipulated by having an actor “portray” an affective state. Rather, the leaders’ affect was manipulated by using an affect induction, offering a more externally valid representation of how positive and negative affect might look.

Follower positive and negative affect influenced follower attributions of transformational leadership. Follower positive affect partially mediated the relationship between leader affect and follower attributions of leadership. The mediation for follower negative affect did not reach conventional levels of significance. Follower negative affect and attributions of transformational leadership were related to performance, although follower positive affect was unrelated to performance. Only follower negative affect significantly mediated the relationship between leader affect and follower performance.
These findings can be understood in the context of previous research. There is strong evidence that affect can be transmitted between senders and receivers through the process of emotional contagion (e.g., Friedman & Riggio, 1981). While previous research has demonstrated that emotional contagion can occur between leaders and followers (Cherulnik et al., 2001; Lewis, 2000), the current research examined the implications of this process. This study examined the outcomes of emotional contagion in terms of follower attributions of transformational leadership and performance. Follower affect mediated the relationship between leader affect and follower outcomes. Specifically, follower positive affect mediated the relationship between leader affect and follower attributions of transformational leadership and follower negative affect mediated the relationship between leader affect and follower performance.

The notion that affect should influence perceptions and performance is supported by previous research and theory. Affect is associated with several processes that may have influenced performance in the current study. For instance, previous research has established that persons experiencing positive affect tend to perceive other individuals and situations more favorably than persons experiencing negative affect (cf. Isen & Baron, 1991). As such, follower affect should influence follower attributions of leadership.

In addition, followers’ affect should influence their perception of the task. Positive perceptions of the task may result in greater exertion of effort and motivation to perform well. Indeed, previous research has established that affect is related to motivation (Baron, 1990; Hackman & Oldham, 1975, 1976). As the task in this study required cognitive ability, follower affect may also have influenced performance by influencing
cognition (cf. Isen & Baron, 1991). Because the task in this study also involved decision-making, in terms of ranking and rating each of the applicants in the resumé screening task, affect may have influenced performance through its influence on decision-making (Isen & Means, 1983; Isen, Means, Patrick, & Nowicki, 1982; Isen, Rosenzweig, & Young, 1991).

Leader affect also directly influenced follower attributions of transformational leadership and performance. Dasborough and Ashkanasy (2002) suggested that leader expressed affect results in follower attributions of leadership. Additional research has supported this relationship, demonstrating that the expression of negative affect leads to less favorable leadership evaluations, while the expression of positive affect leads to more favorable leadership evaluations (Bucy, 2000; Lewis, 2000; Newcombe & Askanasy, 2002; Tiedens, 2001). Previous research has also linked leader affect to follower performance (George, 1995; George & Bettenhausen, 1990). The current findings build upon the extant research by testing an integrative model of how these processes function together, and established a causal relationship between leader affect and follower outcomes.

The direct effects of leader affect on follower ratings of transformational leadership and performance may reflect the fact that leaders in the positive affect condition in Study 1 (from which the stimuli for Study 2 were drawn) performed better than leaders in the negative affect condition. Leaders in the positive affect condition displayed better nonverbal behavior, in terms of speech fluidity, and focused on process-oriented details to a greater extent than leaders in the negative affect condition. Leader speech fluidity may have influenced follower attributions of transformational leadership,
because speech fluidity is an important component of charismatic communication style (cf., Awamleh & Gardner, 2000; Halverson & Dipboye, 2004; Holladay & Coombs, 1993, 1994). In addition, the leaders’ speech fluidity may have influenced follower performance because fluid speech is more comprehensible. Leaders in the positive affect condition also did a better job explaining the résumé screening task than leaders in the negative affect condition. While there are many possible explanations for the direct effects described previously, the fundamental difference between conditions was the affect manipulation. Therefore, it is safe to say the that direct effects are due to some aspect of the leaders’ affect.

Limitations

There were a few limitations to the current research. First, the use of students raises some concern over the generalizability of the findings. However, the students in this sample were somewhat older than average students, had previous work experience, and most were currently working. Although the participants may not have had a great deal of vested interest in the outcomes of the selection task, most spent the full 45 minutes completing the task, and the letters that they wrote were of very high quality. While laboratory research is often subject to these criticisms, Locke (1986) found high levels of similarity between laboratory and field research. Further, as noted by Mook (1983) laboratory experiments provide insight on what can happen in various situations, rather than what does happen.

Second, leadership was conveyed by means of a videotaped speech, which may limit the extent to which followers were able to pick up on the leaders’ nonverbal behavior, and is less realistic than a face-to-face leadership situation. Yet, clearly the
videotape was high enough in fidelity to allow for emotional contagion to occur. In addition, video presentations are frequently used by high level leaders such as CEOs to communicate with their followers, and are likely to increase in use as the business world becomes more globally oriented. The findings may also be consistent with distant leadership, in terms of the lack of personal relationship between the leader and followers (Yagil, 1998). Most Americans’ limited experience with their political leaders only involves watching them on television.

Despite these limitations, the current findings add to an understanding of emotional contagion in leadership. While previous theory has suggested that leaders may influence their followers via emotional contagion, the current study tested this hypothesis in a controlled laboratory setting. This study established that leader affect can influence follower positive and negative affect through emotional contagion and that follower affect influences attributions of transformational leadership and performance.

Study 3

While Study 2 demonstrated that leader affect can influence follower affect, the generalizability of that research was limited by the fact that it was a laboratory study using students. The goal of Study 3 was to examine the extent to which leader affect actually influences follower affect in real world leader – follower relationships. In line with Study 2 the following hypotheses were developed.

Hypothesis 1: Leader positive and negative affect will relate to follower positive and negative affect through emotional contagion.

Hypothesis 2: Leader positive and negative affect will relate to follower attributions of transformational leadership.
Hypothesis 3: Follower positive and negative affect will relate to follower attributions of transformational leadership.

As demonstrated in Studies 1 and 2, affect should also be related to performance. Job performance can be conceptualized as the extent to which one exhibits behaviors that further the goals of the organization (Rotundo & Sackett, 2002). This includes both formal, prescribed, task related behavior, or core task behaviors, and informal acts of a prosocial nature that benefit coworkers, supervisors, and/or the organization called organizational citizenship behavior (Smith, Organ, & Near, 1983). Organizational citizenship behavior has been implicated in research on affect because of the relationship between affect and helping behavior (Cunningham et al., 1980; Isen & Baron, 1991; Isen & Levin, 1972; Isen et al., 1976, Levin & Isen, 1975; Puffer, 1987; Rosenhan et al., 1981; Scholl, et al., 1987; Smith, et al., 1983). George and Brief (1992) described positive affect as a direct antecedent of organizational spontaneity, and research has demonstrated the relationship between positive affect and OCB (George, 1991; Lee & Allen, 2002). Eisenberger et al., (2001) found that positive affect at work mediated the relationship between perceived organizational support and organizational spontaneity.

Follower positive affect at work should be more strongly related to OCB than in-role performance because helping others is an affect driven behavior, as opposed to an attitude driven behavior (Weiss & Cropanzano, 1996). Attitude driven behaviors are those requiring an overall evaluation of one's job in order to make a decision. For example, deciding to quit a job should require a deep evaluation of the company and one's attitude toward that company. The relationship between affect and attitude driven behavior should be mediated by job satisfaction. Affect driven behaviors require less
thought and evaluation, and should be driven by an emotional or affective response to a
given stimuli. For example, affect would directly predict one’s decision to leave work
early if he or she were upset. Insofar as OCB is a discretionary helping behavior, there
should be a direct link between affect at work and OCB.

Hypothesis 4: Follower positive and negative affect will relate to
follower OCB.

Transformational leadership has also been conceptually and empirically linked to
OCB (Deluga, 1995; Koh, Steers, & Terborg, 1995; Podsakoff, MacKenzie, & Bommer,
1996). Transformational leaders are thought to appeal to followers’ higher order needs,
foster follower dedication to organizational goals, and increase follower self-confidence
and self-expectations. These behaviors cause followers to, “do more than they are
expected to do,” (Yukl, 1989), “perform above and beyond the call of duty,” (Bass,
1985), take on greater responsibility, perform beyond expectations, and assume
leadership roles themselves (Bass & Avolio, 1993, 1994). For example, Koh et al. (1995)
found that teachers’ perceptions of their principals’ transformational leadership behavior
predicted OCB.

Hypothesis 5: Follower attributions of transformational leadership
will relate to follower OCB.

Method

Approximately 300 principals from a large public school district were contacted
by telephone and asked if they would like to receive information about this study. Of
those who were reached, 66 principals expressed interest in receiving additional
information by e-mail. They were sent an e-mail containing information about the study
and the web-links for the principal and teacher surveys. The e-mail requested that following the completion of their own survey, principals would forward an e-mail to all teachers at their school so that they could complete a survey as well. The surveys were anonymous except for a school identification number used to link teacher and principal data. Twenty-one principals completed the online survey (response rate of 33%). Usable data (data for which there was corresponding teacher data) were only available for 16 of the principals, three of who were men (19%) and 13 of who were women (81%). There were two Black (13%), three Hispanic (19%), and 12 White (75%) principals (participants were allowed to indicate more than one race).

There were a total of 126 teacher respondents from 21 schools. Only data from 112 teachers from 16 of the schools were usable because the others lacked the corresponding principal data. Among the usable sample, 19 were men (17%), 91 were women (81%), and two people failed to respond (2%). There were four Asian (4%), 11 Black (10%), 14 Hispanic (13%), 80 White (71%), and six teachers who indicated “other” as their race (5%). Tenure ranged from teachers in their first year to 30 years ($M = 5.58$, $SD = 5.66$). It is unclear why there were no teacher respondents from the other six schools from which principals responded or why teachers from five additional schools responded when their principal did not.

Procedure

This study used a survey methodology. Teachers completed measures of trait positive and negative affect (affectivity), susceptibility to emotional contagion, and positive and negative affect at work. Affect at work was measured with the JAS (Brief et al., 1988), but rather than asking participants to indicate how they feel “right now,” they
were asked to indicate how they feel, “while at work.” This was designed to tap participants’ general affective states at work. Teachers also rated their principal on transformational leadership and self-reported OCB.

Principals completed the same measures of trait affect and affect at work as the teachers did. In addition, they completed a Big 5 personality measure that was included for use as a covariate. Because of the correlational design of this study, there was concern that other individual characteristics of the principals, such as personality, would influence teacher affect at work. For example, if a principal were very low on agreeableness, teachers may experience more negative affect at work, regardless of emotional contagion processes. To reduce possible effects of principal personality on the outcomes, principal personality was controlled for, statistically. The other method of employing statistical control was to examine the interaction between teachers’ susceptibility to emotional contagion and principal positive affect. By using this moderating effect, rather than a main effect, there would be stronger evidence that principal affect is influencing teacher affect though emotional contagion.

**Measures**

*Job Affect Scale (JAS).* Same as Study 1, except participants were asked to indicate how they felt, “while at work.”

*Positive and Negative Affectivity Scale (PANAS).* This 20-item scale measures trait positive and negative affectivity (Watson et al., 1988), indicating how one feels most of the time (see Appendix I). Each item on the scale indicates a positive or negative affective trait. The positive and negative scales reflect two distinct scales rather than a
single bipolar continuum. Both the positive and negative subscales were used. In this case the descriptor asked the participants to describe how they feel “in general.”

*Multifactor Leadership Questionnaire (MLQ-5X/Short Form).* Same as Study 2.

*Organizational Citizenship Behavior (OCB).* A 15-item measure of contextual performance, as described by Borman and Motowidlo (1993), was adapted from Motowidlo and Van Scotter (1994). One item was eliminated from the original questionnaire because it applied primarily to a military sample. The scale is scored on a 1 (*Not at all likely*) to 5 (*Extremely likely*) scale and includes the following sample items: “While performing your job, how likely would you (a) comply with instructions even when supervisors are not present, (b) cooperate with others in the team, (c) persist in overcoming obstacles to complete a task” (Appendix I).

*Susceptibility to Emotional Contagion.* Doherty’s (1997) emotional contagion scale was used to measure individual differences in susceptibility to emotional contagion (see Appendix J). The items referring to love were not included in the questionnaire. Sample items include, “Being with a happy person picks me up when I am feeling down,” and “I tense when I hear an angry quarrel.” Responses were recorded on a scale ranging from 1 (*Never*) to 4 (*Always*).

*Big 5:* The personality test used was the 50-item measure of the Big Five personality dimensions from the online International Personality Item Pool (IPIP, 2001). This scale measures extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience (see Appendix K).
Results

Intercorrelations between the principal and teacher variables are presented in Tables 6 and 7. Hypotheses were tested using Hierarchical Linear Modeling (HLM) using the HLM 5 statistical program (Raudenbush, Bryk, & Congdon, 2000). Recent reviews have supported the use of HLM in leadership research (Castro, 2002). In all cases, the non-robust standard error analysis was used because of the small number of level 2 units. That is, because there were so few principals in the analyses, the more conservative analyses were used. In addition, because Hypothesis 2 suggested that leader affect would relate to follower attributions of leadership, it is important to assess the extent to which there was a group effect for transformational leadership. That is, do teachers within a school agree on their leader’s transformational leadership. The intra-class correlation (ICC1) for teacher attributions of transformational leadership was .16, indicating a high level of agreement between teachers on principal leadership behavior. Therefore, it is possible to test the extent to which leader affect is related to the group’s attributions of transformational leadership.

To test Hypothesis 1 (Leader positive and negative affect will relate to follower positive and negative affect through emotional contagion) two Hierarchical Linear Models were conducted with a) teacher positive affect at work and b) teacher negative affect at work as the dependent variables. In both cases, principal personality (extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience) and teacher positive and negative affectivity were entered as the control variables. The next step was to test the extent to which principal affect moderated the relationship between teacher susceptibility to emotional contagion and teacher affect. Teacher susceptibility to
Table 6

*Intercorrelations between teacher variables in Study 3.*

<table>
<thead>
<tr>
<th>Variable</th>
<th>α</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive affect at work</td>
<td>.85</td>
<td>3.59</td>
<td>.81</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Negative affect at work</td>
<td>.87</td>
<td>1.65</td>
<td>.67</td>
<td>-0.37***</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Positive affectivity</td>
<td>.92</td>
<td>3.91</td>
<td>.64</td>
<td>0.76***</td>
<td>-0.22*</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Negative affectivity</td>
<td>.92</td>
<td>1.60</td>
<td>.50</td>
<td>-0.03</td>
<td>0.36***</td>
<td>-0.17</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Susceptibility to emotional contagion</td>
<td>.79</td>
<td>2.60</td>
<td>.44</td>
<td>0.05</td>
<td>0.00</td>
<td>0.06</td>
<td>0.08</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Attributions of transformational leadership</td>
<td>.96</td>
<td>3.74</td>
<td>1.08</td>
<td>0.36***</td>
<td>-0.38***</td>
<td>0.31**</td>
<td>-0.14</td>
<td>0.10</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Organizational citizenship behavior</td>
<td>.90</td>
<td>4.21</td>
<td>.56</td>
<td>0.51***</td>
<td>-0.27**</td>
<td>0.52***</td>
<td>-0.14</td>
<td>0.15</td>
<td>0.35***</td>
<td>-</td>
</tr>
</tbody>
</table>

*Note. n = 112. α = Cronbach’s α. *p < .05, **p < .005, ***p < .001.*
<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
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<th>6</th>
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</tr>
</thead>
<tbody>
<tr>
<td>a M SD</td>
<td>0.84</td>
<td>4.08</td>
<td>0.53</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Positive affect at work</td>
<td>0.70</td>
<td>1.54</td>
<td>0.38</td>
<td>0.05</td>
<td>0.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Negative affect at work</td>
<td>0.87</td>
<td>4.25</td>
<td>0.42</td>
<td>0.74***</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3. Positive affectivity</td>
<td>0.87</td>
<td>4.31</td>
<td>0.30</td>
<td>-0.24</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Negative affectivity</td>
<td>0.84</td>
<td>3.49</td>
<td>0.65</td>
<td>0.49</td>
<td>-0.29</td>
<td>0.58*</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Extroversion</td>
<td>0.78</td>
<td>4.38</td>
<td>0.48</td>
<td>0.22</td>
<td>0.13</td>
<td>0.47</td>
<td>0.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Agreeableness</td>
<td>0.76</td>
<td>3.93</td>
<td>0.51</td>
<td>0.29</td>
<td>-0.29</td>
<td></td>
<td>0.13</td>
<td>0.01</td>
<td>0.08</td>
</tr>
<tr>
<td>7. Conscientiousness</td>
<td>0.87</td>
<td>3.84</td>
<td>0.64</td>
<td>0.59*</td>
<td>-0.13</td>
<td></td>
<td>0.01</td>
<td>0.15</td>
<td>0.10</td>
</tr>
<tr>
<td>8. Emotional stability</td>
<td>0.76</td>
<td>3.93</td>
<td>0.51</td>
<td>-0.29</td>
<td></td>
<td>0.01</td>
<td>0.15</td>
<td>-0.10</td>
<td>-0.25</td>
</tr>
<tr>
<td>9. Openness to experience</td>
<td>0.38</td>
<td>4.17</td>
<td>0.32</td>
<td>0.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: n = 16, α = Cronbach’s α. * p < 0.05, ** p < 0.005, *** p < 0.001.
emotional contagion was entered, and principal positive and negative affectivity and positive and negative affect at work were entered as moderators of that relationship. Principal positive affect at work significantly moderated the relationship between susceptibility to emotional contagion and teacher positive affect at work (Table 8). There was no relationship between principal affect at work and teacher negative affect at work (Table 9). Hypothesis 1 was supported for positive affect, but not for negative affect. Principal positive and negative affect did not significantly influence teacher attributions of transformational leadership.

To test Hypothesis 2, (Leader positive and negative affect will relate to follower attributions of transformational leadership) a third Hierarchical Liner Model was tested with principal personality (extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience) and teacher positive and negative affectivity entered as the control variables, along with principal positive and negative affectivity and positive and negative affect at work as the predictor variables. There were no significant relationships (Table 10).

To test Hypotheses 3, (Follower positive and negative affect will relate to follower attributions of transformational leadership) and 4 (Follower positive and negative affect will relate to follower OCB) four Hierarchical Liner Models were conducted with teacher positive and negative affect as the independent variables and follower attributions of transformational leadership and OCB the dependent variables. Teacher positive and negative affect at work significantly predicted both attributions of transformational leadership and OCB (Table 11). Finally, to test Hypothesis 5, “Follower attributions of transformational leadership will relate to follower OCB,” a final
Table 8

Hierarchical linear models for the moderating effect of principal affect at work on the relationship between teacher susceptibility to emotional contagion and positive affect at work

<table>
<thead>
<tr>
<th></th>
<th>γ</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Teacher control variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive affectivity</td>
<td>.95</td>
<td>11.33***</td>
</tr>
<tr>
<td>Negative affectivity</td>
<td>.21</td>
<td>1.96</td>
</tr>
<tr>
<td><strong>Principal control variables</strong></td>
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<td></td>
</tr>
<tr>
<td>Extroversion</td>
<td>-.23</td>
<td>-1.40</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>-.02</td>
<td>-0.11</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>-.19</td>
<td>-1.10</td>
</tr>
<tr>
<td>Emotional stability</td>
<td>.04</td>
<td>0.92</td>
</tr>
<tr>
<td>Openness to experience</td>
<td>.19</td>
<td>0.52</td>
</tr>
<tr>
<td><strong>For teacher susceptibility to emotional contagion</strong></td>
<td>.32</td>
<td>.66</td>
</tr>
<tr>
<td>Principal positive affectivity</td>
<td>-.25</td>
<td>-1.49</td>
</tr>
<tr>
<td>Principal negative affectivity</td>
<td>.12</td>
<td>0.64</td>
</tr>
<tr>
<td>Principal positive affect at work</td>
<td>.22</td>
<td>2.30*</td>
</tr>
<tr>
<td>Principal negative affect at work</td>
<td>-.16</td>
<td>-1.70</td>
</tr>
</tbody>
</table>

*Note. Teacher n = 112, principal n = 16. * p < .05, ** p < .005, *** p < .001.*
Table 9

Hierarchical linear models for the moderating effect of principal affect at work on the relationship between teacher susceptibility to emotional contagion and negative affect at work

<table>
<thead>
<tr>
<th></th>
<th>( \gamma )</th>
<th>( t )</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Teacher control variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive affectivity</td>
<td>-.18</td>
<td>-1.75</td>
</tr>
<tr>
<td>Negative affectivity</td>
<td>.34</td>
<td>1.77</td>
</tr>
<tr>
<td><strong>Principal control variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extroversion</td>
<td>.01</td>
<td>.07</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>.07</td>
<td>.32</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>.46</td>
<td>2.15</td>
</tr>
<tr>
<td>Emotional stability</td>
<td>.19</td>
<td>.43</td>
</tr>
<tr>
<td>Openness to experience</td>
<td>-.01</td>
<td>.04</td>
</tr>
<tr>
<td><strong>For teacher susceptibility to emotional contagion</strong></td>
<td>.39</td>
<td>.65</td>
</tr>
<tr>
<td>Principal positive affectivity</td>
<td>-.17</td>
<td>-.86</td>
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<tr>
<td>Principal negative affectivity</td>
<td>-.11</td>
<td>-.50</td>
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<tr>
<td>Principal positive affect at work</td>
<td>.10</td>
<td>.65</td>
</tr>
<tr>
<td>Principal negative affect at work</td>
<td>.04</td>
<td>.85</td>
</tr>
</tbody>
</table>

*Note.* Teacher \( n = 112 \), principal \( n = 16 \). *\( p < .05 \), **\( p < .005 \), ***\( p < .001 \).
Table 10

*Hierarchical linear models for the effect of principal affect at work on teacher attributions of transformational leadership*

<table>
<thead>
<tr>
<th></th>
<th>$\gamma$</th>
<th>$t$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Teacher control variables</strong></td>
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<td></td>
</tr>
<tr>
<td>Positive affectivity</td>
<td>.41</td>
<td>2.26*</td>
</tr>
<tr>
<td>Negative affectivity</td>
<td>-.19</td>
<td>-.57</td>
</tr>
<tr>
<td><strong>Principal control variables</strong></td>
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<td></td>
</tr>
<tr>
<td>Extroversion</td>
<td>.17</td>
<td>.31</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>-.18</td>
<td>-.31</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>-.63</td>
<td>-1.12</td>
</tr>
<tr>
<td>Emotional stability</td>
<td>-.91</td>
<td>-.69</td>
</tr>
<tr>
<td>Openness to experience</td>
<td>-.39</td>
<td>-.47</td>
</tr>
<tr>
<td><strong>Test variables</strong></td>
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<tr>
<td>Principal positive affectivity</td>
<td>-.78</td>
<td>-.43</td>
</tr>
<tr>
<td>Principal negative affectivity</td>
<td>.41</td>
<td>.28</td>
</tr>
<tr>
<td>Principal positive affect at work</td>
<td>.14</td>
<td>.19</td>
</tr>
<tr>
<td>Principal negative affect at work</td>
<td>.07</td>
<td>.09</td>
</tr>
</tbody>
</table>

*Note.* Teacher $n = 112$, principal $n = 16$. * $p < .05$, ** $p < .005$, *** $p < .001$. 
Table 11

Hierarchical linear models for the effect of teacher affect at work on teacher attributions of transformational leadership and OCB

<table>
<thead>
<tr>
<th>Attributions of transformational leadership</th>
<th>$\gamma$</th>
<th>$t$</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher positive affect at work</td>
<td>.38</td>
<td>2.87*</td>
<td>.12</td>
</tr>
<tr>
<td>Teacher negative affect at work</td>
<td>-.53</td>
<td>-3.75*</td>
<td>.05</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Organizational citizenship behavior</th>
<th>$\gamma$</th>
<th>$t$</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher positive affect at work</td>
<td>.37</td>
<td>5.28***</td>
<td>.31</td>
</tr>
<tr>
<td>Teacher negative affect at work</td>
<td>-.27</td>
<td>-2.45*</td>
<td>.12</td>
</tr>
<tr>
<td>Transformational leadership</td>
<td>.18</td>
<td>3.37**</td>
<td>.12</td>
</tr>
</tbody>
</table>

*Note. Teacher $n = 112$, level two groups $n = 16$. * $p < .05$, ** $p < .005$, *** $p < .001$.**
Hierarchical Liner Model was conducted with teacher attributions of transformational leadership as the independent variable and OCB as the dependent variable. There was a significant relationship between the two variables (Table 11). Hypotheses 3, 4, and 5 were all supported. All of the significant relationships predicted in the original model are displayed in Figure 3.

Because all of the teacher variables were self-report, there is some concern over the problems inherent to self-report research including common method variance, the consistency motif, and social desirability in responding (Podsakoff & Organ, 1986). Podsakoff and Organ (1986) provided several suggestions for methods of addressing the common variance problem. The first is Harman's one-factor test in which all of the response variables are entered in a factor analysis. If there is a substantial amount of common method variance either (a) only one factor will emerge from the factor analysis or (b) the first factor will account for the majority of variance between the variables. The seven teacher variables (the two PANAS factors, two JAS factors, susceptibility to emotional contagion, MLQ, and OCB) were factor analyzed.

The unrotated factor analysis yielded two factors with Eigen Values over 1. The first factor accounted for 38.93% of the variance and the second accounted for 19.16% of the variance. Because neither condition of Harman's one-factor test was met there is some evidence that the data in the current study was not substantially influenced by common method variance. A second suggestion of Podsakoff and Organ (1986) is to trim any items that represent substantial overlap between the constructs of interest. No items from the OCB, MLQ, or affect at work demonstrated overlap. This mitigates additional
Figure 3. Significant findings from Study 3.
concern over the same-source nature of the teacher variables. However, like any correlational study, however, the findings from this one should treated carefully.

Discussion

The results from Study 3 support those of Study 2 and extend the generalizability of the findings. Leader positive affect was related to follower positive affect via emotional contagion. That is, the relationship between follower susceptibility to emotional contagion and follower affect at work increased as leader positive affect at work increased. Follower positive and negative affect at work were related to follower attributions of transformational leadership and OCB and follower attributions of transformational leadership was related to follower OCB. However, leader negative affect was not related to follower affect, and neither leader positive or negative affect influenced follower attributions of transformational leadership.

This study adds to the previous two studies by incorporating OCB as an outcome variable. Insofar as positive affect results in an increase in motivation, persons experiencing positive affect should be more likely to exert extra effort by engaging in OCB (George & Brief, 1996). These findings are supported by previous theory (George & Brief, 1992; Weiss & Cropanzano, 1996) and research (George, 1991; Lee & Allen, 2002). Unlike previous research, however, this study examined the relation of both positive and negative affect at work on OCB, rather than focusing solely on positive affect. Follower positive affect positively predicted OCB and negative affect negatively predicted OCB, even though these two variables were uncorrelated. Follower attributions of transformational leadership also related to OCB. These findings support those of Koh
et al. (1995), who found that teachers’ perceptions of their principals’ transformational leadership behavior predicted OCB.

Limitations

There is some concern over the generalizability of our sample. While other research has supported the role of principals as leaders (Koh et al., 1995), education is a very specific industry that requires a great deal of emotional labor (Hargreaves, 2000). Emotional labor is the, “management of feeling to create a publicly observable facial and bodily display,” (Hochschild, 1983). Therefore, these findings may particularly extend to other jobs where the regulation of affect is very important, such as human resource management, healthcare, and sales (see Grandey, 2000 for a review). The same source data of the teacher variables also raises concern. This concern was somewhat mitigated by demonstrating that the follower variables comprised more than one factor, and the first factor accounted for less than half of the variance of all of the variables (Podsakoff & Organ, 1986). This suggests that it is unlikely that the shared variance between the follower variables was not solely due to artifactual reasons.

Another potential limitation stems from the fact that only data from sixteen principals were able to be used in the final analyses. This may have limited statistical power, resulting in the lack of significant findings between principal affect and follower outcomes. The worth of this sample size can be appreciated though, when reflecting on its impact in terms of leadership theory development. That is, the present study had sixteen different organizational leaders with followers from these sixteen respective organizations. Future research should seek to replicate these findings using a larger sample of leaders across more diverse industry populations.
Although using a field sample adds external validity, there are often costs to internal validity. Unlike a laboratory study, correlational research cannot control for external factors such as differences between organizations. As Wofford (1999) said, "From field-based correlations, one is constrained to the use of statistical means of defending the existence of causal relationships among variables," (p. 528). Accordingly, in the relationship between principal affect and teacher affect, (a) leader affect may have caused follower affect; (b) follower affect may have caused leader affect; (c) something else may have caused both leader affect and follower affect. This study employed several methods to increase the internal validity of this study.

Because the goal of this study was to examine the effect of emotional contagion on follower affect, several attempts were made to isolate this effect. First, leader personality and leader and follower trait affectivity were controlled for to reduce other individual differences that have the potential to influence follower affect at work. Second, rather than examining the direct effect of leader affect on follower affect, I examined the moderating effect of leader affect on the relationship between follower susceptibility to emotional contagion and follower affect. This added use of statistical control lends credence to the hypothesis that the relationship between leader affect and follower affect was due to emotional contagion.

Third, this research tried to control for the possibility that similarities between employees were due to the fact that the individuals share a group membership. That is, there may be something about the school that influences both principal and teacher affect. In terms of the Attraction, Selection, Attrition Model (ASA; Schneider, 1987; Schneider, Goldstein, & Smith, 1995), organizations tend to attract individuals that are similar to the
culture, which is influenced by top leaders in the organization. If a school shared an extremely positive culture then other positive individuals might be particularly attracted to that organization. During the selection process, individuals who fit the positive culture may be selected over those who do not. Finally, it is expected that those who were selected but did not fit the culture would eventually leave or be fired from the organization.

This ASA effect was somewhat diminished by the use of Hierarchical Linear Modeling (HLM). This statistical technique controls for the fact that a individuals are nested within groups, and may possess similarities on that basis alone. Specifically, HLM estimates parameters based on the intercorrelation of error terms (autocorrelation) for individuals within a group and between groups (Pollack, 1998). In this case, HLM controlled for the fact that teachers were nested within schools, with only one leader. Through these methods, this study attempted to control for some of the common problems associated with correlational field studies. However, without the benefit of experimental control, it is still impossible to determine causality.

However, the results from Study 3 complement those of Study 2 by demonstrating that emotional contagion can occur in real leader – follower situations and demonstrating that follower affect is related to attributions of leadership and performance. Leader positive affect was related to follower positive affect and follower positive and negative affect were related to attributions of transformational leadership and organizational citizenship behaviors. Attributions of transformational leadership was also related to organizational citizenship behavior. These findings extend the generalizability of those in Study 2 by testing the hypothesized model in a field setting.
General Discussion

The findings from the three current studies highlight the importance of affect and emotional contagion in leadership. Leader affect influenced leader behavior, follower affect, follower attributions of transformational leadership, and follower performance. In addition, follower affect was related to attributions of transformational leadership, performance, and OCB. Emotional contagion served as a potential causal factor in how leader affect influenced follower outcomes.

While a great deal of research has demonstrated the process of emotional contagion (e.g., Friedman & Riggio, 1981), little research has focused on the role of emotional contagion in leadership situations (Cherulnik et al., 2001; Lewis, 2000). This is surprising in light of the conceptual link between status and emotional contagion. Given that status is negatively related to one’s awareness of others’ affective states (Hall, Carter, & Horgan, 2001; Snodgrass, 1985), and attending to others’ affective state is necessary for emotional contagion to occur (Hatfield et al., 1992, 1994), it follows that leaders should have a strong influence on their followers’ affect. Indeed, Polansky and colleagues found that persons of higher status influenced others’ affect to a greater extent than persons of lower status (Lippitt et al., 1952; Polansky et al., 1950). These findings from these studies demonstrate that leader affect influences follower affect and this transmission of affect has important implications for follower perceptions and performance.

Transformational Leadership

These findings also build upon previous research on transformational leadership. Study 1 demonstrated that leader affect influenced leader behavior. In addition, leader
affect influenced follower attributions of transformational leadership in Study 2. While positive affect has been associated with transformational leadership (Dasborough & Ashkanasy, 2002), these findings demonstrated that induced positive affect led to greater attributions of transformational leadership.

That leader positive affect resulted in more positive attributions of transformational leadership is supported by previous research. For example, Newcombe and Askanas (2002) found that followers’ perceptions of their leader’s positive affect led to higher ratings of the leader’s negotiating latitude. In addition, Lewis (2000) found that leader negative affect (e.g., angry, sad, or neutral) influenced follower general leadership perceptions. Tiedens (2001) also demonstrated that the expression of negative affect influenced status conferral. This study extends the findings of previous research by demonstrating that the effects of leaders affect on follower perceptions extend to transformational leadership. That is, leader affect influenced the extent to which followers made attributions of transformational leadership such that leaders displaying positive affect were attributed greater levels of transformational leadership than leaders displaying negative affect.

The findings of Study 3 did not confirm the relationship between leader affect and follower attributions of transformational leadership. However, the small sample size of that study raises concern over whether there was enough statistical power to uncover such a difference. Conversely, it is possible that the influence of leader affect on follower attributions of leadership does not extend to real leader–follower relationships. The research that has demonstrated the relationship between leader affect and follower leadership perceptions has all been conducted in the laboratory (Lewis, 2000; Newcombe
& Askanasy, 2002; Tiedens, 2001). While previous research has linked leader affect to follower performance (George, 1995; George & Bettenhausen, 1990), future research should explore the impact of leader affect on follower attributions of transformational leadership in field settings.

**Performance**

There are several explanations as to why affect may have influenced performance in these studies. There is evidence that affect influences cognitive performance (cf. Isen & Baron, 1991). For example, Murray, Sujan, Hirt, and Sujan (1990) found that persons in positive affective states have greater cognitive flexibility in categorization, use more narrow and inclusive categories, and identify more similarities and differences between strategies than persons in less positive affective states. Their findings also lent some support to a motivational explanation for the effects of affect on performance.

Indeed, positive affect is associated with increased levels of motivation (Baron, 1990; Hackman & Oldham, 1975, 1976; Murray et al., 1990). George and Brief (1996) suggested that affect influences how one chooses what task to engage in, how much initial effort to exert on that task, and how motivated one is to persist with the task. In terms of VIE theory, Erez and Isen (2002) found that positive affect influenced all three components of motivation (valence, instrumentality, and expectancy), which in turn influenced performance. In Study 1, there was evidence of the motivational component of affect. Leaders in the positive affect condition spent more time preparing their speeches and delivered longer speeches than leaders in the negative affect condition. Motivation may also have had an influence on performance in Study 2 on the letter-writing task.
Finally in Study 3, teachers' affect was associated with OCB, which is largely a motivational facet of performance.

One reason that positive affect may influence motivation is through its effect on self-esteem (Baron, 1990; Forgas et al., 1990; Sedikides, 1993; Wright & Mischel, 1982). Positive affect results in increased expectations, estimates of past success, and global self-evaluations (Wright & Mischel, 1982). Negative affect results in decreased expectations, estimations of past success, and self-evaluations (Wright & Mischel, 1982). If one believes that he or she cannot accomplish a task he or she should put less effort forth to accomplish it. Future research should explore self-esteem or self-efficacy as a mediator of the affect – performance relationship in organizational contexts.

In Study 2 follower positive affect did not influence performance, but follower negative affect did. One explanation is the negative asymmetry effect. There is substantial evidence that negative experiences, traits, and situations have a greater impact than their positive counterparts. This *negativity bias* has been shown in research related to memory, emotion, learning, child development, information processing, and impression formation (see Baumeister, Bratslavsky, & Finkenauer, & Vohs, 2001, for a review). Cacioppo and colleagues have shown that neurological differences accompany the psychological differences related to negativity bias (Cacioppo et al., 1993, 1994; Crites et al., 1995; Crites & Cacioppo, 1996; Ito et al., 1998). They show that participants experience a greater level of event related potentials (ERPs) when exposed to negative stimuli than positive stimuli and that both positive stimuli and negative stimuli leads to greater ERPs than neutral stimuli (Ito et al., 1998). It is possible that negative affect has a stronger influence on performance than positive affect.
Another explanation for the findings in Study 2 was the focus on diversity in the performance task. The most highly qualified candidate was a Black man. In addition, performance included the acceptance of the goal of increasing diversity of the organization. This was measured through participants’ ratings of the highly qualified Black female applicant. Previous research has demonstrated that negative affect hurts affiliative tendencies toward outgroups (Kenworthy, Canales, Weaver, & Miller, 2003). Esses and Zanna (1995) also found that persons in a negative affective state were more likely to attribute negative stereotypes to certain ethnic groups. As the majority of the participants were Caucasian, those in the negative affect condition may have evaluated applicants in their outgroup lower than deserved. This may have influenced follower performance on the three tasks that involved rating or ranking the applicants, but should not have influenced performance on the letter-writing task.

It is important to note that other research has suggested that positive affect may result in a greater reliance on stereotypes because of the association between positive affect and heuristic processing (e.g., Park & Banaji, 2000). The findings from this research support the former proposition, insofar as followers in the negative affect condition performed worse than followers in the positive affect condition on the resumé screening task. However, this research did not directly test participants’ attitudes toward diversity or stereotypes as a result of induced affect. The relationship between affect and perceptions of diversity offers a wealth of opportunity for future research (see Ashkanasy, Hertel, & Daus, 2002 for a review).
Positive and Negative Affect

Somewhat unique to the current study was the simultaneous focus on both positive and negative affect. Across the samples, positive and negative affect (or affectivity) were not highly correlated with each other, supporting the independence of these constructs. It is interesting to note the ways in which the two operated similarly and differently. In Study 1, leaders did not report differences on positive affect, but did report differences on negative affect in response to the affect manipulation. In Study 2, only follower negative affect mediated the relationship between leader affect and performance. Also, while both follower positive and negative affect were related to follower attributions of transformational leadership, only follower positive affect significantly mediated that relationship between leader affect and follower attributions of transformational leadership. The effect for negative affect was only marginally significant. In Study 3, only principal positive affect was related to teacher positive affect, while Study 2 demonstrated emotional contagion of both positive and negative affect between leaders and followers. In addition, both positive and negative affect similarly influenced attributions of transformational leadership and OCB in Study 3.

While the findings from this research suggest that negative affect hurts performance, there is some evidence to suggest that negative affect can improve performance. Zhou and George (2001) and George and Zhou (2002) found that negative affect can result in greater levels of creativity under certain conditions. In addition, negative affect is associated with lower levels of the self-serving bias (Alloy & Abramson, 1979; 1982; Alloy, Abramson, & Viscusi, 1981), and may produce better performance where there is a definitive right or wrong answer (Isen & Baron, 1991).
Further research is needed to assess when negative affect facilitates performance outcomes.

In addition, future research might explore when leader expression of negative affect results in attributions of transformational leadership. In some instances, negative affect may lead to favorable outcomes (Connelly, Gaddis, & Helton, 2002). For example, Lerner and Keltner (2000) found that anger resulted in optimistic judgments toward future events, while fear led to pessimistic judgments. In certain situations, it may be more appropriate for a leader to display negative affect, such as anger or aggression. For example, charismatic leadership is often associated with the rejection of the status quo (Conger & Kanungo, 1987, 1988). In rejecting the status quo, the leader may express negative affect toward the current state of the organization or situation. Tiedens (2001) found that leaders who expressed anger were seen as more competent and were conferred greater status than leaders who expressed sadness. Indeed, anger has been associated with dominance, strength, and intelligence (Gallois, 1993). Along these same lines, future research should explore more specific leader emotions, rather than general positive and negative affect.

Implications

There are several important practical implications of the current research. In terms of leadership, few leader characteristics have been consistently associated with effective leadership. Based on the findings from these studies, leader affect may be an important variable for consideration in future research and theory. Insofar as leader affect influences follower perceptions and performance directly and through follower affect, it may have particularly strong effects on follower outcomes. However, continuing research
should examine this as well as the more general impact of leader affect on follower outcomes.

In addition, Study 2 demonstrated that follower affect influenced attributions of transformational leadership, raising the question of the extent to which follower affect alone can influence leadership perceptions. As demonstrated by previous research, those experiencing positive affect tend to judge other individuals and situations more favorably than those experiencing negative affect (Isen & Baron, 1991). However, this would be more likely to occur in a situation where followers had little prior knowledge of, or experience with, their leader. In a situation in which followers already do have a well-formed opinion about their leader, follower affect may not have the same influence. In terms of Forgas’ (1995) Affect Infusion Model, affect is most likely to influence perceptions during heuristic and substantive processing, and is less likely to influence perceptions when one has a preexisting evaluation of the target that he or she is evaluating. The participants in Study 2 were most likely relying on heuristic or substantive processing. In Study 3, however, followers did have long-standing relationships with their leaders, yet positive affect still influenced their perceptions of their leader.

Other research has demonstrated how positive affect can influence perceptions in an organizational setting. Brief, Butcher, and Roberson (1995) found that providing employees with cookies (a positive affect induction) led to more positive ratings of job satisfaction. The question remains as to how long affect inductions such as this would influence worker perceptions. In Studies 1 and 2, the final measures of performance were taken up to an hour after the affect induction took place, and still revealed significant
differences between conditions. As affect tends to reinforce itself, a small affect induction may lead to continued effects on performance beyond the one-hour examined in this research (Isen et al., 1978). This may be particularly true for positive affect, as persons experiencing positive affect may strive to maintain their affective state by engaging in actions that reinforce it (Clark & Isen, 1982).

Even in the short term, however, affect can have important effects on outcomes. For example, Estradam Isen, and Young (1997) demonstrated that induced affect influenced physicians’ ability to diagnosis an illness in a medical simulation. Participants who received a positive affect induction came to a correct diagnosis earlier than those who did not receive the induction. Further, they were less likely to discount disconfirming evidence of their diagnosis. Based on these findings and others, the influence of affect on performance deserves continued attention.

Insofar as affect can be transmitted between employees, one person’s affect can influence those around him and her, and thereby influence their performance as well. Emotional contagion is particularly likely to occur in groups that have high task and social interdependence, membership stability, mood regulation norms (Bartel & Saavedra, 2000) and for members who are older and more committed (Totterdell, 2000; Totterdell et al., 1998). In addition, individuals who are susceptible to emotional contagion are more likely to catch others’ affect (Totterdell, 2000). The affect–performance relationship may have been underestimated by previous research because it largely focused on the individual. When the influence of one’s affect on those around him or her is considered, the current research suggests that an individual’s affect can have a cascading effect on performance.
Conclusion

In conclusion, the current research builds greatly upon previous research on affect in leadership. These studies established that leader affect can influence follower affect through the process of emotional contagion and demonstrated that both leader and follower affect were associated with performance outcomes. In Study 1, leader affect influenced leadership behavior. In Study 2, leader affect influenced follower attributions of transformational leadership, follower positive and negative affect, and follower task performance. Further, follower positive affect mediated the relationship between leader affect and follower attributions of transformational leadership while follower negative affect mediated the relationship between leader affect and follower performance. Finally, Study 3 demonstrated that leader positive affect was related to follower positive affect in a field sample of leaders and followers. Follower positive and negative affect were also related to attributions of transformational leadership and organizational citizenship behavior. These findings suggest that leaders can influence follower outcomes through emotional contagion and previous findings regarding transformational leadership may be explained in terms of leader and follower affect.
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Appendix A

Materials for Study 1 leadership task.

The aim of this task is for you to write and deliver a talk to a group of undergraduate recruiters who are screening resumes of individuals who have applied to enter the management training program of your organization. In this task, you take the role of Pat Jackson, Recruitment Manager for Amidex Corporation. You will have 45 minutes to review the materials and prepare your talk.

Inside you will find the following documents:

1) Organizational background
2) Information on some of the Amidex employees
3) Instructions to recruiters
Organization background

Amidex is a multinational organization that manufactures and distributes pharmaceuticals. It employs about 50,000 people worldwide - its top managers are mostly White males. Amidex has announced openings for college graduates in its management training program. It is seeking high potential graduates to be trained for placement in management positions. Any major is appropriate because the training program will be tailored to the interests, aptitude, and work experience of each trainee.

Historically, the Amidex training program has attracted and recruited applicants who have excellent academic achievement records. However, in emphasizing academic accomplishments, the organization has rejected applicants who are not academic stars but who have demonstrated leadership in other areas. The organization has now decided that they wish to retain a more diverse workforce by recruiting individuals who have demonstrated competency across a wide range of areas. There has been some conflict within the organization about this issue. Some detractors see it as an opportunity to increase the number of minorities in the organization, regardless of how competent they are for the positions. Further, Amidex is in a conservative business. Detractors within the organization believe Amidex could lose their clients if they adopt this new approach to recruitment. However, supporters of the new approach to recruitment, emphasize the benefits of recruiting people from diverse backgrounds. Organizations that value diversity are more innovative than their conservative competitors. Amidex is trailing behind their competitors and some senior executives believe this is due to the organization’s reluctance to move with the times. Further, the demographic composition of the American Labor force is changing as the proportions of both women and members of minority groups have steadily increased in recent years. Some senior executives believe that Amidex employees will not be effective at their jobs unless they acquire skills in dealing with culturally different co-workers whom they work with, work for, and supervise.

To achieve the new objective of the organization, Amidex has recruited a number of undergraduates to help identify candidates for their management training program. Other successful organizations have recruited undergraduates to help with recruiting efforts. Students appear particularly adept at identifying applicants with diverse interests, values, and personalities.
Amidex employees

Information about Pat Jackson (your role)

You joined Amidex five years ago and your promotion to Recruitment Manager is a recent event. You joined the organization through its management training program and feel proud that you are in charge of a program that gave you such valuable training and experience. In fact, you believe that without that training you would not have gained such an early promotion. All the usual personnel services such as recruitment, hiring, promotions, training, and contract negotiations are handled through your office. You are in charge of 15 people, three of whom were recruited through the management training program.

Information about Jose Fernandez

Jose Fernandez joined Amidex via through the management training program. He has been with Amidex for two years and is manager of the Finance Department. His promotion to finance manager was swift yet well deserved, believes Pat Jackson, who recommended his promotion. According to the Finance president, Sam Donaldson, Jose is a very hard worker who is has demonstrated considerable leadership skills. Jose majored in humanities at college obtaining a mediocre GPA. However, while at college he helped establish a literacy club for the homeless. His college advisor believes Jose was largely responsible for the success of the literacy club.
Task instructions

Your task is to write and deliver a talk to undergraduate students who will evaluate potential applicants for your management training program. The undergraduates have been given a set of 12 resumes and evaluations sheets and need instructions on how to screen the resumes. In addition, you want the recruiters to write a short letter to their top applicant persuading them to join the organization. The undergraduate recruiters have 45 minutes to complete the task. The resumes are also from undergraduate students from other universities. As Pat Jackson, you are required to give clear instructions to the undergraduate recruiters on how to perform the task.

Although the applicant should have a BA/BS by May 2003, the primary concern should be to hire employees whose background suggests they will be effective managers. The undergraduate recruiters need to review each resume to judge whether the applicant meets the requirements. On the evaluation sheet is a list of dimensions. The undergraduate recruiters need to evaluate each applicant on the set of dimensions and provide comments on how the applicant fits or does not fit the dimension. The evaluation sheet contains ratings (on a 1–7 scale) and space for the recruiters to record evidence of how each applicant has demonstrated or failed to demonstrate achievement in this area. Recruiters also need to provide a general evaluation of the candidate. The dimensions stated on the evaluation sheet include:

- Willingness to work hard (going beyond the minimum required)
- Innovation (looks for new challenges)
- Cooperation (working well with others)
- Leadership potential (influencing others effectively)
- Versatility (able to adapt to different situations)

Most candidates will have little work experience, so the recruiters need to look for evidence in the college and outside activities of the applicant. The applicants are evaluated on the list of dimensions. Recruiters also select the top two people they feel are most eligible for the management training program. Recruiters should only choose the top two once they have rated all the applicants. The training program is extremely expensive and care needs to be taken in selecting the right applicants for the positions. Then they write a one-page letter to the top candidate persuading them to join the organization.

Now prepare your talk for the undergraduate recruiters. Imagine that you have entered the room where the undergraduate recruiters are seated. You need to give actual instructions and guidance to the undergraduate recruiters, although you are unable to see them.
Appendix B

Job Affect Scale

Here are some words that describe how people might feel. Using the scale provided, please indicate how you feel right now.

Very little or not at all
A little
Moderately
Quite a bit
Very much

Circle the one number to the right of each word which best indicates how you have felt how you feel right now. Do not skip any word. Remember, your true feelings are important to us.

<table>
<thead>
<tr>
<th>Very Slightly or Not at All</th>
<th>A Little</th>
<th>Moderately</th>
<th>Quite a Bit</th>
<th>Very Much</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. Active 1 2 3 4 5
2. Calm 1 2 3 4 5
3. Distressed 1 2 3 4 5
4. Sleepy 1 2 3 4 5
5. Strong 1 2 3 4 5
6. Excited 1 2 3 4 5
7. Scornful 1 2 3 4 5
8. Hostile 1 2 3 4 5
9. Enthusiastic 1 2 3 4 5
10. Dull 1 2 3 4 5
11. Fearful 1 2 3 4 5
12. Relaxed 1 2 3 4 5
13. Peppy 1 2 3 4 5
14. At rest 1 2 3 4 5
15. Nervous 1 2 3 4 5
16. Drowsy 1 2 3 4 5
17. Elated 1 2 3 4 5
18. Placid 1 2 3 4 5
19. Jittery 1 2 3 4 5
20. Sluggish 1 2 3 4 5
Appendix C

Transcript rating form.

Answering yes or no, did the leader do the following?

- Yes ☐ No ☐ Talk about the company’s mission or goal to increase diversity
- Yes ☐ No ☐ Say that Amidex is looking for future leaders of the company
- Yes ☐ No ☐ Provide information about his or her background
- Yes ☐ No ☐ Attribute his/her success to the management training program
- Yes ☐ No ☐ Talk about Jose Fernandez
- Yes ☐ No ☐ Say they would rate 12 resumes
- Yes ☐ No ☐ Mention the 1 – 7 scale
- Yes ☐ No ☐ Say they have 45 minutes to complete the task
- Yes ☐ No ☐ Say the applicants have to have a BA or BS by 2003
- Yes ☐ No ☐ Say the resume screener should provide comments about each applicant
- Yes ☐ No ☐ Say the recruiters should choose the top 2 applicants
- Yes ☐ No ☐ Say the recruiters should write a letter to the top candidate
Appendix D

Speeches chosen for Study 2.

Participant 30: Negative affect leader

Good afternoon. For those who do not know me, my name is Pat Jackson, recruitment manager here at Amidex Corporation. I would like to thank each of you for agreeing to join our recruitment team and help us with this program. I believe that in the future it will be a very successful program for Amidex Corporation. I believe through your good decisions we will grow into a stronger and stronger organization. What I hope to achieve with my speech here is just to explain to you what our goals at Amidex are through this recruitment program and also I would like to walk you through the process of evaluating the resumes so that you can do so more effectively.

So what are our goals here at Amidex Corporation? We want you to identify through the evaluation process individuals who will be the most effective manager. When you are looking through the resumes please do not just focus on the grades or do not just focus on the ranking of their undergraduate institution or whatever work experience they have. Also, focus on things like teamwork and leadership skills. At Amidex, we also really value diversity or uniqueness in life experience. So take all of this into account so that when we select our top managers we can build a team of managers who will be able to tackle any challenge or face any obstacle head on by viewing it through numerous points, and ideas, and viewpoints. From this diverse range of ideas, I believe we can overcome any obstacle in the future.

Each of you has in your hands 12 resumes and 12 evaluation forms. What you simply need to do is carefully go over each of the resumes and fill out the evaluation form as you do so. You will see, when you look at the evaluation forms we ask you to rate the candidates on skills such as innovation, cooperation, leadership, and versatility. Simply rank them on a scale of one to seven. Once you have finished ranking each of the candidates, I would like you to select the top two candidates and from each of your selections of the top two candidates we will develop a smaller pool and from that pool our recruitment team will make our selections. I also ask that once you select your top two candidates, of those two select the number one candidate who will be the most effective manager at our corporation or any corporation. To that one candidate, I ask that you write them a very persuasive letter, because obviously if we view them as such a strong candidate other companies will also view them as a strong candidate. We need to be competitive to convince these strong people to join our organization and to join our management team. I believe that explains everything you need to know. I will be available to answer any questions that you may have in evaluating these candidates, in my office. And I would like to thank you again for coming out and using your valuable time to help us out. Have a good afternoon.
Participant 38: Negative affect leader

Good afternoon. My name is Pat Jackson. I am the recruitment manager here at Amidex Cooperation, the leader in the global pharmaceutical industry. I would like to thank you for your help today in screening our applicants for our management-training program. My purpose is to spend a little bit of time talking to you about what it is exactly and what we want to see in the managers for our training program. First, we need to talk about the goal of the program, itself. The goal is simple. We want to find the individuals with the greatest leadership potential and train them to be great managers within Amidex. How do we find great leadership potential? That is not so simple. It begins, however, right here with you. We need to ensure that we have the highest quality prospects based on total achievement, not just one specific area. We want to make sure that when we are done with the screening process, that there are not any excellent candidates left behind that have maybe fallen through the cracks. To ensure that happens, I want to cover the specific procedures we want you to follow as you are screening these applicants so that we can find the exact candidates that Amidex wants. So the process for the screening these applicants’ applications are as follows.

First, I want you to read each of the resumes once, briefly, just making a note of whatever stands out. It does not matter what it may be, where it is at in the resume, what is it that stands out on that particular resume. Second, I would like for you to go back and read them again, this time more carefully, using your list of seven attributes that we have given you on the evaluation sheet, ranking each candidate in each area on the scale. Remember that these numbers are relative. It does not matter exactly what is a six or what is a five, just so long as you are consistent within your rankings in that, if you feel one candidate in one area is better than another you give them a higher relative score. After the second reading and after ranking the candidates on the seven attributes, I would like for you then to go back and make notes of anything from this resume that stood out that you do not feel came through in these evaluations in these seven areas. After you have done those three things you are ready to begin developing a picture of just who this candidate is. What is their overall image? What are they overall set of attributes that this person can provide to Amidex Corporation’s management training program? With that in mind I want you to consider two overall areas of equal importance. The first is academic achievement. This is success in the school setting. It pertains to grades, but also to participation in clubs, sporting events, anything related to the academic setting. The second area is personal achievement. What accomplishments, what interests, and what activities has this individual engaged in outside of the traditional school setting? Community involvement, traveling experiences, and especially leadership abilities. It is easy under the academic portion to list all of the clubs someone is involved in. It is easy to be involved in clubs, but it is a much different aspect to be a leader within the club. So we are looking for academic achievement, we are looking for personal achievement. After you have decided where does this candidate fit in each of those two areas, I want you then to assign them another relative score for each of the two areas and average the two. Traditionally, most training programs would place a heavier emphasis on academic achievement, however, we feel that this will overlook and bypass many of the better candidates. So I want you to assign a score to each category and then average them in
keeping each one equal. When you are finished this should give us an overall idea of based on the candidates you had who best fits Amidex's ideal fit. Thank you very much for your time.
Participant 10: Positive affect leader

Good morning everyone, my name is Pat Jackson. I am the recruiting manager at Amidex Corporation. I have been with Amidex for five years and joined their management-training program. And I feel that it has been the secret of my success in my ability to advance myself into the corporation. So, why I have asked all of you to come here today is to evaluate some of our potential candidates for this management-training program. Now historically, Amidex has only recruited those people who have demonstrated strong levels of academic success only. We feel within Amidex, including myself, that this has left us a little behind the times among our competitors as diversity is concerned. We want to improve the level of diversity and talent among our management trainees.

So, as I have said, you have each been given each 12 resumes and applications and I would like for you to evaluate on a scale from one to seven on how well they have evidenced these five areas, especially outside of the classroom. So the five areas that you need to concentrate on are: the willingness to work hard. Look for areas that they have shown perhaps involvement in club organizations or anyway that they have evidenced that they are willing to work hard especially outside of the classroom. The second area is innovation, is there any evidence that they are extremely creative, or they like to be involved in projects where their creativity is the key to that project's success? The third area is cooperation, have they shown any areas where they work well with others? The fourth area is their leadership potential. Look for areas in which they have shown leadership roles or just perhaps leadership potential maybe not evidenced by a specific title. The final area and perhaps the most important is their versatility. Key in on areas where they have shown success within a diverse set of situations. Now after you have evaluated each candidate I will ask you to select the top two candidates that you think best fit what we have asked for in these evaluations. Now after you have selected the top two then select your top candidate, the one who best fits all of these areas.

Now, with that candidate, we would like you to write a one-page letter stressing to them why they should come work for Amidex. In that letter you have pretty much free range to write what ever you like, but I ask that you would stress three things. First, their ability to make an immediate contribution to our organization, as we are looking to improve our position among our competitors. Second, stress our commitment to improving diversity among our firm. They are there to improve our diversity and we will be looking for those characteristics especially form them. Finally, make sure that you stress the ability for them to be promoted very quickly through the organization. As I said I was here five years ago and I have made it to my position very quickly by working hard. Now, you only have 45 minutes to complete this process so work quickly but efficiently. So again the five areas that we want to make sure that these candidates all express success in, especially outside of the classroom are, their willingness to work hard, their ability to be innovative, their ability to cooperate with people, their leadership potential, and their versatility. Select the two candidates that you think best fit those qualities and then write a letter to the top choice. Now does anyone have any questions?
Participant 42: Positive affect leader

First of all I want to thank all of you for coming to help today. We have got a really important job we have asked you to help us with. I know that you are busy college student, you have got a lot of things going on, so we really appreciate you taking the time out of your schedule to help us. Second of all, we know that the fact that you are here, that you are helping us, says something about the type of people that you are—that you are bright, that you are capable, and more importantly that you are able to recognize certain traits in others. That is the focus of what we are trying to accomplish today. We have assembled you all to review some resumes of people who are candidates in our management-training program. We have got to do a couple of things with this exercise. I am going to give you a little background on the reason why we are doing this, a few details about the program, and then some detailed instructions about what we need you to accomplish and get done today.

Just generally, we are trying to identify very high quality people. Historically, we have focused on academics as a measure of potential in the organization and that is lead to some unintended consequences. We have gotten a lot of very bright people in the organization, but at the same time we have overlooked a number of people that, maybe, would tend to be leaders in the company. So we have missed some of that. We are retooling our focus to focus more on finding high quality people as opposed to high GPAs. Another point that we are trying to focus on is that of diversity. Diversity is very critical to us, not from the standpoint that most people think, though. We are not trying to expand the organization’s population of people from different races, per se, for the fact that they are different races or skin color. What we are trying to do is increase the perspectives in our company, bring fresh ideas and new concepts to the business. That comes in part because of race and religion and culture and background and a number of different things. But it’s not just that. So that is an important effort that we’re trying to accomplish here with the selection process. So on to the basic instructions about what you need to accomplish today. In front of you, you all have twelve resumes and twelve evaluation sheets. You have got to evaluate these candidates based on five characteristics, which we are going to get to in a second. You need to rank each candidate based on a one to seven scale with seven being the highest. You need to select your top two. Then you need to write a letter to the one that you think is your top candidate convincing them to join the organization.

The bad news is, you only have forty-five minutes to do this. But I am going to help you in a few minutes to think about how you can make this go a little faster and how you can identify these characteristics that we are looking for. But again, to step back one second, we are not as concerned about what kind of degree they have, they just need to have a degree. We are not concerned about GPA, per se. We are concerned about diversity in terms of differences in backgrounds and cultures for the purpose of bringing new perspectives to the company. Those are really the important things. So if we look at the characteristics that you need to evaluate all these candidates against, the first one is willingness to work hard. Now a lot of the people that you are going to see resumes for do not have a lot of experience on their resume, maybe. So you are going to need to look
for clues in other places. But you are all smart; you will be able to figure this out. Some characteristics or some clues you can look for: are they taking a heavy course load? Is it a very demanding major, do they have summer jobs, maybe they are working part time during school, and do they have lots of activities? All of these things sort of support the fact that they are willing to work hard because they are going above and beyond just attending school. Innovation. They exhibit principles of innovation meaning they are willing to try new things. If you look at their resume do they have varied interests on there? Do they have interests that last for a period of time and then switch to something else? Are they sort of unique in nature? Not necessarily do they play football, but maybe are they coaching little league football and are they playing tennis and are they a reader, those sorts of things? Cooperation. This one is pretty easy, too, if you look at whether they participate in team-based activities. Are they involved in team sports? Are they participants in committees? Do they work with student organizations? Those types of things will lead to an idea of cooperation. Leadership potential. Again, I am trying to figure out which one of these people could actually step up and be a leader and there are different kinds of leaders, but generally you are people that are willing to assume responsibility. So if you look at their backgrounds, if you look at what they have been involved with, if they have been officers in organizations, if they have been captains on sports teams, those sorts of things demonstrate leadership potential. Finally, versatility. Really this means flexibility, willingness to work in an environment where things are constantly changing. When you think about these kinds of characteristics think about whether or not they have diverse interests. Are they involved in a number of different things as opposed to focused in one particular area? People that are involved in a number of different activities, typically are more flexible, they are more able to handle changes. So, are they involved in sports? Do they read? Do they like math? Do they volunteer? Do they travel? Travel is a particularly interesting point. If you see travel on there, that means that they have been exposed to different cultures. You particularly see it in repetitive cases, that means that they do it a lot. It is a good indicator of versatility. So those are the characteristics. Those are pretty clear I think, some of them are more challenging than others, but there are some clues that are going to be in everybody’s resume that you can sort of sort those out. Again, ranking from one to seven, seven being the highest. And then you need to write a letter.

So after you have ranked all your candidates, added all the scores, selected your top two, you need to select your top one. This is the person you ranked the highest or the person that you think fits all these characteristics the best. You need to write him or her a short letter. Now the letter just needs to convey a couple simple messages. Tell them that they have a unique opportunity, a little bit about the company, and how to accept a position if they are interested. So when you open the letter, congratulate them. Tell them that they have been accepted for a unique opportunity, that it is a very prestigious job and a very exciting company, and they were selected from a pool of applicants, so they are very unique. And you want to convey this idea that they are unique and that they are special. Talk a little bit next about the company and its history. You know just general facts, that we’re a pharmaceutical company, that we are a very large one, we have fifty thousand employees worldwide, we have a number of brands that they will probably recognize. So think about those things and put those things in your letter. Next paragraph, talk about
our management training program and how it is sort of the future, the people that are
going to lead the company in the next decade are coming out of this program and that it’s
a very special program and that it’s very prestigious within the organization. Then finally,
next step is if they’re interested in pursuing the company, pursuing the role or pursuing
the job that they contact me. I will give you my contact information, it is on one of the
sheets, and just make sure you write that in there so they can contact me. So to
summarize, we really appreciate you taking the time to review these resumes, and I know
that it seems like a short compressed time frame, and that it seems like a very important
task, and it is, but we need you to do it pretty quickly. I have given you some ways you
can sort through some of this and move pretty fast. Again, think about the primary roles,
and that’s to identify people with diverse backgrounds that have leadership potential. So
thank you for your help. If you have any questions, you can give me a call, and I will be
here. Thank you.
Appendix E

Multifactor Leadership Questionnaire.

Using the scale below indicate your level of agreement with the following items. Do not answer how you think you are expected to answer. Answer in an honest fashion. Please rate the CEO on the following questions using the scale below:

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<tr>
<th>Scale</th>
<th>Description</th>
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<tbody>
<tr>
<td>0</td>
<td>Not at all</td>
</tr>
<tr>
<td>1</td>
<td>Once in awhile</td>
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<td>Sometimes</td>
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<td>Fairly often</td>
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<tr>
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<td>Frequently, if not always</td>
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The leader:

1. Talks about most important values and beliefs

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<td>Fairly often</td>
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2. Specifies the importance of having a strong sense of purpose

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<td>Frequently, if not always</td>
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3. Emphasizes the importance of having a collective sense of mission

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4. Considers the moral and ethical consequences of his decisions

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5. Talks optimistically about the future

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6. Talks enthusiastically about what needs to be accomplished

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7. Articulates a compelling vision of the future

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<td>Once in awhile</td>
<td>Sometimes</td>
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8. Expresses confidence that goals would be achieved

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<td>Once in awhile</td>
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9. Instills pride in being associated with him

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<td>Once in awhile</td>
<td>Sometimes</td>
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<td>Frequently, if not always</td>
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10. Displays a sense of power and confidence

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11. Goes beyond his self-interest for the good of the group

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12. Acts in ways that built your trust

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Appendix F

Performance measures for Study 2.

APPLICANT NUMBER _____________

1) Applicant’s willingness to work hard.

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<tbody>
<tr>
<td>Not at all</td>
<td>Very poor</td>
<td>Mediocre</td>
<td>Moderately well</td>
<td>Good</td>
<td>Very good</td>
<td>Completely</td>
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2) The applicant’s innovation and creativity potential

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<td>Moderately well</td>
<td>Good</td>
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3) Applicant’s ability to work well with other people

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4) Applicant’s leadership potential

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5) Applicant’s overall ability

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<td>Moderately well</td>
<td>Good</td>
<td>Very good</td>
<td>Completely</td>
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General comments on the applicant: List here general qualities of the applicant to help you reach decision. This is optional
NOW RANK ORDER THE CANDIDATES IN TERMS OF PREFERENCE

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<tr>
<th>TOP CANDIDATE</th>
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AMIDEX CORPORATION

On THIS page, write a 1-page letter to your chosen applicant persuading him or her to join Amidex.
APPLICANT 11 (Top Candidate)

School address
167 South Union Street
Burlington, VT 05401
Phone: 802/555-3354

Permanent address:
756 Maple Street
Manchester, NH 03104
Phone: 603/555-0856

Personal Information:
Social Security Number: 526781941
Age: 24
Ethnicity: Black
Gender: Male
Marital status: Single

Education
1998-2002 UNIVERSITY OF VERMONT BURLINGTON, VERMONT
Contributing editor for campus newspaper, the Cynic. Member of the Outing Club. Captain of Varsity Crew Team. Designed and painted university-sponsored mural with the theme of cultural diversity.

Experience
Summer 2001 OFFICE OF THE PUBLIC DEFENDER BURLINGTON, VERMONT
Summer Intern working with five attorneys. Performed extensive research to support court cases and attended court session. Handled confidential documents and paper work. Liaison with District Attorney’s Office.

Summers
1997-1999 SWEETWATER’S RESTAURANT BURLINGTON, VERMONT
Began work as host, promoted to waitstaff. Also relief bartender.

Part-time
1998-present UNIVERSITY BOOKSTORE UNIVERSITY OF VERMONT
Cashier/Clerk. Acted as cashier, stocked shelves, and miscellaneous other duties.

Interests
Enjoy painting, football, and camping.

References
personal references available upon request
APPLICANT 9 (Top Black Female Candidate)

72 Oak Street, #3A
Seattle, Washington, 92013
703/555-9998
Personal Information:
Social Security Number: 674351987
Age: 23
Race: Black
Gender: Female
Marital Status: Single

EDUCATION
1997-2002  LOYOLA UNIVERSITY  New Orleans, LOUISIANA
Awarded a Bachelor of Sciences degree in May 2002, majoring in Biology, minorin in Horticulture. Courses include Biochemistry, Anatomy and physiology, Chemistry, Physics, Computer Science and Advanced Calculus. GPA 3.65

Co-founder and Vice-president of Council for Racial Relations for New Orleans campus.

EXPERIENCE
Summer 1997, 1998  Laboratory technician, Physics department, Loyola University.
Designed and constructed signal filters and power amplifiers for research on bird behavioral patterns. Tested and modified equipment after preliminary use.

Wrote press releases and pitch letters for release to the media. Prepared media lists, answered phone inquiries, data entry, and general clerical.

Part-time 1997-2002  Cashier, Hamilton News & Books Bookstore. Worked as cashier, assisted customers with questions, took inventory, handled special orders.

Awards  Nominated and won Tulane innovator award for establishing Race Relations council. Gold plaque and $2000 price.

References  Personal references available upon request
Appendix G

Letter rating questionnaire.

Applicant number

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<tbody>
<tr>
<td></td>
<td></td>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Neither agree nor disagree</td>
<td>Agree</td>
</tr>
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</table>

___1. The letter expressed positive emotions

___2. The letter writer sounds happy to invite this new employee to the company

___3. The letter was well written

___4. The letter was high quality

___5. The letter praised the applicant

___6. The letter praised Amidex

___7. The letter expressed optimism for the applicant’s future at Amidex

___8. The letter was persuasive
Appendix H

Positive and Negative Affectivity Scale (PANAS)

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way, that is, how you feel on the average. Use the following scale to record your answers.

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<tbody>
<tr>
<td>very slightly or not at all</td>
<td>a little</td>
<td>moderately</td>
<td>quite a bit</td>
<td>extremely</td>
</tr>
</tbody>
</table>

- _______ interested
- _______ irritable
- _______ distressed
- _______ alert
- _______ excited
- _______ ashamed
- _______ upset
- _______ inspired
- _______ strong
- _______ nervous
- _______ guilty
- _______ determined
- _______ scared
- _______ attentive
- _______ hostile
- _______ jittery
- _______ enthusiastic
- _______ active
- _______ proud
- _______ afraid
Appendix I

Organizational Citizenship Behavior.

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<tbody>
<tr>
<td>Not at all likely</td>
<td>Somewhat likely</td>
<td>Likely</td>
<td>Very likely</td>
<td>Extremely likely</td>
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While performing your job, how likely is it that this you would...

1. Comply with instructions even when the principal is not present

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<tr>
<td>Not at all likely</td>
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2. Cooperate with others in the team

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3. Persist in overcoming obstacles to complete a task

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4. Display proper appearance

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5. Volunteer for additional duty

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6. Follow proper procedures and avoid unauthorized shortcuts

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7. Look for a challenging assignment

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8. Offer to help others accomplish their work

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9. Pay close attention to important details

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10. Defend the principal's decisions

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11. Support and encourage a coworker with a problem

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12. Take the initiative to solve a work problem

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13. Exercise personal discipline and self-control

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14. Tackle a difficult work assignment enthusiastically
15. Voluntarily do more than the job requires to help others or contribute to unit effectiveness?

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Appendix J

Susceptibility to Emotional Contagion Scale.

This scale consists of statements that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way, that is, how you feel on the average. Use the following scale to record your answers.

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<tbody>
<tr>
<td></td>
<td>Never</td>
<td>Sometimes</td>
<td>Often</td>
<td>Always</td>
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</table>

_____1. If someone I’m talking with begins to cry, I get teary-eyed.

_____2. Being with a happy person picks me up when I’m feeling down.

_____3. When someone smiles warmly at me, I smile back and feel warm inside.

_____4. I get filled with sorrow when people talk about the death of their loved ones.

_____5. I clench my jaws and my shoulders get tight when I see angry faces on the news.

_____6. It irritates me to be around angry people.

_____7. Watching the fearful faces of victims on the news makes me try to imagine how they might be feeling.

_____8. I tense when I hear an angry quarrel.

_____9. Being around happy people fills my mind with happy thoughts.

_____10. I notice myself getting tense when I’m around people who are stressed out.

_____11. I cry at sad movies.

_____12. Listening to the shrill screams of a terrified child waiting in the dentist’s waiting room makes me feel nervous.
Appendix K

IPIP Personality Scale

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<td>5</td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Neither agree nor disagree</td>
<td>Agree</td>
<td>Strongly agree</td>
<td></td>
</tr>
</tbody>
</table>

1. Am the life of the party.
2. Feel little concern for others.
3. Am always prepared.
4. Get stressed out easily.
5. Have a rich vocabulary.
6. Don’t talk a lot.
7. Am interested in people.
8. Leave my belongings around.
9. Am relaxed most of the time.
10. Have difficulty understanding abstract ideas.
11. Feel comfortable around people.
12. Insult people.
13. Pay attention to details.
14. Worry about things.
15. Have a vivid imagination.
17. Sympathize with others’ feelings.
18. Make a mess of things.
19. Seldom feel blue.
20. Am not interested in abstract ideas.


22. Am not interested in other people's problems.

23. Get chores done right away.


25. Have excellent ideas.

26. Have little to say.

27. Have a soft heart.

28. Often forget to put things back in their proper place.

29. Get upset easily.

30. Do not have a good imagination.

31. Talk to a lot of different people at parties.

32. Am not really interested in others.

33. Like order.

34. Change my mood a lot.

35. Am quick to understand things.

36. Don't like to draw attention to myself.

37. Take time out for others.

38. Shirk my duties.

39. Have frequent mood swings.

40. Use difficult words.

41. Don't mind being the center of attention.

42. Feel others' emotions.
43. Follow a schedule.
44. Get irritated easily.
45. Spend time reflecting on things.
46. Am quiet around strangers.
47. Make people feel at ease.
48. Am exacting in my work.
49. Often feel blue.
50. Am full of ideas.