

I Feel Where You're Coming From: Power, Emotional Contagion, and the Mediating Role of Attention

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This paper examines how attention plays a role in the relationship between power and emotional contagion. In two separate studies, we hypothesize and test that the relationship between power and emotional contagion is mediated by attention. In Study 1, data were collected from participants (N = 120) in a controlled laboratory setting, and we draw upon cognitive psychology research to develop a novel behavioral measurement of attention. Results marginally supported the hypothesized mediation of attention but only for negative affect contagion. In Study 2, a longitudinal survey method was employed (N = 221) where respondents indicated their attention to, and emotional contagion from, someone at their workplace with a different level of power. Results from our second study support our hypotheses for both positive and negative affect contagion. Implications for theory on power and social influence, emotion, as well as organizational and leadership practices are discussed.

Keywords: power, attention, emotional contagion, leadership

INTRODUCTION

It is widely recognized that social influence is a primary consequence of power (Cartwright, 1965; French & Raven, 1959; Kipnis, 1972, 1976; Lewin, 1951), and powerful individuals have an increased ability to change the behavior, thoughts, and feelings of those over whom they hold power (Asch, 1955; Cialdini & Trost, 1998; French & Raven, 1959). One type of social influence that powerholders may have is emotional influence in the form of emotional contagion or the “sending” and “catching” of moods among people (Hatfield, Rapson, & Cacciopo, 1994). Increasing evidence suggests that our daily work lives are significantly affected by the moods and emotions of others, as these impact not only our own moods, but our attitudes, behavior, and performance itself (e.g., Sy, Côté, & Saavedra, 2005; Van Kleef, De Dreu, & Manstead, 2004; Smollan, 2006). Emotional contagion from co-workers and customers most certainly affects employees (Vijayalakshmi & Bhattacharyya, 2012), and this type of influence from organizational leaders who hold more power may be greater, and even toxic at times (Kellerman, 2004; Lipmann-Blumen, 2006; Bligh, Kohles, Justin, Pearce, & Stovall, 2007). Given the relationship between power and influence over others, low-power employees may be more likely to be influenced by (or catch) the emotions of a person who has power over them, such as a supervisor, manager, or other organizational leader, while

powerholders may be more likely to influence (or send) emotions to others while being relatively unlikely to catch others' emotions, particularly those in low-power positions.

An individual's level of power also has psychological and behavioral effects (Keltner, Gruenfeld, & Anderson, 2003), which may in part explain the relationship between power and emotional influence. One such behavioral effect of power is social attention, such that individuals who hold great power are unlikely to pay attention to less powerful others, while individuals with low power pay great attention to those that have power over them (Keltner & Robinson, 1997; Keltner, et al., 2003; Neuberg & Fiske, 1987). In addition, attention is driven by people's goals, resulting in great attention paid to objects or people that help individuals achieve their goals (Dijksterhuis & Aarts, 2010). According to Power Approach Theory (Keltner et al., 2003), high-power people are motivated to approach rewards, and since those with low power are unlikely to be able to provide any reward, powerholders are unlikely to attend to them. Conversely, low-power individuals are motivated to avoid negative outcomes and punishments that are, by definition, directly controlled by those that have power over them (Keltner et al., 2003), thus motivating low-power people to pay great attention to those powerholders. Given that paying attention to others opens one to another's influence, the relationship between power and influence may, in part, arise out of these differential behavioral (i.e., attentional) tendencies of high- and low-power individuals.

In this paper we expand on prior work on the relationship between power and attention (Fiske, 1993; Fiske & Dépret, 1996; Goodwin, Gubin, Fiske, & Yzerbyt, 2000; Keltner & Robinson, 1997; Ebenbach & Keltner, 1998) to show that the attention that high- and low-power people pay to each other affects how likely they are to be emotionally influenced. This research adds to the existing literature in three important ways. First, while a great deal of research has focused on exploring the relationship between power and attention, little work has concentrated on the *outcomes* of this attention. Specifically, we suggest that emotional influence is an important outcome that needs further examination, as the sharing of emotions becomes of greater significance in organizational settings (Vijayalakshmi & Bhattacharyya, 2012). By examining how power affects the spread of emotion to those with less power, we hope to shed light on how high-power individuals, such as organizational and group leaders, can affect the emotional experiences of lower-power employees. For example, current organizational research supports the notion that emotional experiences in the workplace affect employee well-being (e.g., Avey, Wernsing, & Mhatre, 2011) and performance (e.g., Barsade, 2002; Weiss & Cropanzano, 1996). Moreover, emotional contagion specifically has been shown to influence employees' resiliency (Norman, Luthans, & Luthans, 2005), job satisfaction (Weiss & Cropanzano, 1996), and motivation (Iles, Judge, & Wagner, 2006). Second, we test whether attention mediates the power-emotional contagion relationship. While research has found that emotional contagion does occur between leaders and followers (Lewis, 2000; Sy et al., 2005), theorizing and testing it as a mediator may bring some clarity to the mechanisms behind this phenomenon. Third, this research also makes important methodological contributions, both in how attention is measured and compared through external observations (in addition to self-report measures), as well as with how emotional contagion is conceptualized and measured. Finally, this research attempts to answer Vijayalakshmi and Bhattacharyya's (2012) call to further "comprehend the dynamics involved in the transfer of emotions among individuals."

THEORETICAL DEVELOPMENT AND HYPOTHESES

Attention is marked by orientation toward, and processing of, specific stimuli (e.g., Posner, 1980; Dijksterhuis & Aarts, 2010; Gardner, Dunham, Cummings, & Pierce, 1989), and by attending to various stimuli, individuals are able to gain key information that helps them navigate their environment (e.g., infants and other young animals attend to others to gain information regarding food, avoiding predators, and learning appropriate social behaviors; see Choleris & Kavaliers, 1999). Given that humans live in social environments, other people are often the targets of attention as they may provide information that helps guide one's behavior and learning processes (Foulsham, Cheng, Tracy, Henrich, & Kingstone, 2010), and attending to people enables individuals to make better decisions about cooperation, competition, and communication within their social environment (Range, Horn, Bugnyar, Gajdon, & Huber, 2008). Thus,

we tend to pay attention to objects, events, and people that provide us with the most useful information for navigating our environment (Yarbus, 1967; Mackworth & Morandi, 1967; Antes, 1974; Buswell, 1935; Henderson & Hollingworth, 1999; Foulsham et al., 2010).

However, given that our environment is filled with infinite stimuli and our attention is a limited resource (Kahneman, 1973), it is impossible to attend to every stimulus in our surroundings. As a result, we selectively process certain information while ignoring other information, and this is considered one of the essential functions of attention (Desimone & Duncan, 1995; Dijksterhuis & Aarts, 2010). Thus, much research has sought to determine the factors that may influence where individuals direct their attention (e.g., Loftus & Mackworth, 1978). As opposed to bottom-up processes, where sensory stimulation guides our attention toward salient stimuli that are bright or moving quickly (Koch & Ullman, 1985; Corbetta & Shulman, 2002), the majority of attention appears to be driven by top-down processes, such as prior knowledge, expectations, or current goals (Corbetta & Shulman, 2002; Dehaene, Changeux, Naccache, Sackur, & Sergent, 2006; Koch & Tsuchiya, 2006; Land & Hayhoe, 2001).

One top-down factor that has been shown to affect the allocation of attention is one's social power, or one's relative capacity to influence others' outcomes based on having control over valued resources (Keltner et al., 2003).

The key mechanism that helps explain why power relates to attention is goals. Considerable research has demonstrated that individuals use attention as a resource to pursue goals (see Dijksterhuis & Aarts, 2010 for a review) and has illustrated that individuals pay more attention to incoming information that is relevant for goal attainment than information that is irrelevant (e.g., Aarts, Dijksterhuis, & De Vries, 2001). Although all individuals use attention in the service of goal pursuit, whether one has high or low power greatly affects what those goals are (e.g., Keltner et al., 2003). Thus, power affects attention due to the different goals of those with high versus low power.

Low-Power and Attention

Individuals who are in a position of low power live in an uncertain environment, in which they are subject to threats, punishments, and others' evaluations of them (Keltner et al., 2003; Fiske, 1993; Steele & Aronson, 1995). This environment triggers a prevention focus (Higgins, 1997, 1998), meaning that low-power people have a goal to avoid negative outcomes and undesirable end-states (Keltner et al., 2003). More specifically, they seek to avoid punishment and uncertainty and are highly sensitive to threats (Keltner et al., 2003; Keltner & Robinson, 1997). This prevention focus is associated with the activation of the behavioral inhibition system (BIS), which makes low-power individuals vigilant to those in their environment who could harm them (Keltner & Robinson, 1997; Keltner, et al., 2003). Thus, because of the uncertainty they face, low-power individuals pay great attention to their environment in order to avoid potential negative outcomes.

An especially important target for the attention of low-power individuals is a person who holds power over them. By definition, a person who has power over another is in control of that individual's outcomes and determines whether they receive the punishments or negative outcomes that low-power people are motivated to avoid. Specifically, low-power individuals focus attention on high-power individuals to gain a sense of predictability regarding the intentions and actions of powerholders (e.g., Chance, 1967; Ellyson & Dovidio, 1985; Emory, 1988; Erber & Fiske, 1984). Being able to predict the behavior and intentions of powerholders helps minimize the uncertainty that low-power individuals face and seek to avoid, even though the powerful may not necessarily behave in corruptive ways that are harmful to those they have power over (e.g., Kipnis, 1972; Chen, Lee-Chai, & Bargh, 2001).

High-Power and Attention

Since powerholders live in a reward-rich environment and may feel that they can act without interference or serious social consequences (Weber, 1947), having power activates the behavioral activation system (BAS; Keltner et al., 2003). As a result, high-power individuals have approach-related goals, or those that have great promise for rewards (Higgins, 1997). The BAS regulates behavior, cognition, and affect that helps the individual pursue and obtain goals related to attainable rewards (Keltner et al., 2003;

Anderson & Berdahl, 2002). Attention is one of these resources regulated by the BAS and, since it is a limited resource (Kahneman, 1973), it is predominately fixated on stimuli that provide value. Thus, since low-power individuals are unlikely to be instrumental in goal achievement or able to provide some sort of reward, the powerful are unlikely to attend to them.

Moreover, the BAS is associated with quick and automatic cognition, suggesting that those with high power use heuristics rather than individuating information in processing those around them, especially those with low power (Keltner et al., 2003). For example, Goodwin et al., (2000) showed that power increases stereotyping as a result of powerholders' careless social attention to others. This tendency for automatic social cognition and use of heuristics suggests another explanation for why the powerful tend to pay less attention to others.

Hypothesis 1: *There is a negative relationship between power and attention to others.*

Attention and Emotional Contagion

While attention to certain others provides us with useful information and helps us achieve our goals, it also may open us up to influence from those others. Influence is defined as bringing about change in another (e.g., Cartwright, 1965; March, 1955; Simon, 1957; Cialdini & Goldstein, 2004), and there are different types of influence, some of which are more intentional than others. For instance, individuals may try to influence others by attempting to persuade them to come to an agreement in negotiation (e.g., Van Kleef et al., 2004). However, social influence may also occur in more subtle ways, such as conforming to a popular opinion even if that opinion may not be internally held (Asch, 1952, 1956). While it is not necessary that an individual is aware of the influence they may be receiving, it is necessary that they are paying attention to the influencing agent in order to be influenced by it.

One form of social influence that has been suggested to result from attention is emotional contagion, whereby people “catch” the emotions of other people (Hatfield et al., 1994), implying that an individual's emotions change as a result of an interaction with others. Emotional contagion is a two-stage process whereby individuals first mimic the expressions, vocal tones, or postures (reliable manifestations of affect; see Cacioppo, Petty, Losch, & Kim, 1986) of others. Second, these individuals come to experience congruent moods through the process of afferent feedback (Hatfield et al., 1992, 1994; Neumann & Strack, 2000), or physiological feedback from muscular, visceral, and glandular responses that induce subjective feelings (e.g., Adelman & Zajonc, 1989). Research guided by the perception-behavior link (Bargh, Chen, & Burrows; Dijksterhuis & Bargh, 2001; Neumann & Strack, 2000) suggests that simply perceiving another's behaviors, facial expressions, or vocal tones can elicit corresponding behavior in the perceiver. However, mimicry is unlikely to occur if attention is not paid to the other, as one will not notice or process the behaviors and emotional expressions of the target. This suggests that the more attention an individual pays to others, the more he or she is likely to mimic them and receive emotional contagion from them.

Accordingly, Hatfield et al. (1994) propose that individuals who pay particularly great attention to other people are especially likely to catch their emotions. Moreover, Neumann and Strack (2000: 212) offer a definition of emotional contagion that involves the “observation of another person's public display of mood,” suggesting that in order to receive emotional contagion, one must be observing (i.e., attending to) another's emotional displays.

Hypothesis 2: *There is a positive relationship between attention to another individual and the likelihood of receiving emotional contagion from that individual.*

The Mediating Role of Attention

Since individuals' goals impact where they direct their attention (Dijksterhuis & Aarts, 2010), whether individuals have high or low power may also determine where they direct their attention and how susceptible they are to influence from others. Although it is a central component, the role of attention in the emotional contagion process is often assumed rather than directly tested. For example, important prior studies (Hsee, et al., 1990; Anderson et al., 2003; Spoor & Kelly, 2009) have examined the relationship

between power and emotional contagion assuming that attentional processes link the two. Specifically, they hypothesized a negative relationship between power and emotional contagion and discussed attentional differences as a reason why this may occur. However, the design and findings of these studies suggest opportunities to further investigate the power-emotional contagion relationship. First, the findings of these studies are mixed and sometimes contradictory to the authors' theoretical predictions. While Anderson, et al. (2003) did find results consistent with the predicted negative relationship, Hsee, et al. (1990) and Spoor and Kelly (2009) found opposite results: that high-power partners were more likely to catch the emotions of their low-power counterparts. Second, although these studies discuss attention as possibly playing a role in the relationship between power and emotional contagion, they do not specifically measure attention. Moreover, the inconsistent results across these studies may be due to methods that inadvertently affected the goals, and thus attention, of high- and low-power individuals. In an attempt to resolve these inconsistent findings and methodological issues, the current research empirically measures attention to a counterpart and focuses on how power and goals are manipulated.

Specifically, we hypothesize that attention mediates the relationship between power and emotional contagion. Powerholders are unlikely to orient their attention to those with low power, but even if they do, they are likely to process this information in an effortless and heuristic way (Keltner et al., 2003), which constitutes little attention. Since this type of information processing reflects little effort and thought, individuals are not likely to gain a full or accurate picture of others' emotional expressions and thus not mimic the other. In fact, studies have found that those with high-power are comparatively worse at accurately judging others' emotions (Snodgrass, 1985; Hall, 1979), and that those who engaged in heuristic processing were less influenced by others (Chaiken, 1980). Thus, since powerholders are likely to pay little attention to those with low power, and what attention they do give will be more heuristic, we propose that they are unlikely to be susceptible to emotional contagion from them.

In contrast, low-power people are likely to both orient their attention to those who have power over them and process this information in an effortful and systematic way (Keltner et al., 2003), which constitutes greater attention. Additionally, this effortful and systematic information processing may be especially likely to lead to mimicry and thus emotional contagion because this type of information processing involves considerable effort to comprehend and evaluate incoming information. In other words, systematic information processing is likely to lead to a more accurate or complete perception of others' emotional expressions. When they then mimic these expressions, the emotions they adopt are likely to be a more accurate reflection of the target's. Since low-power people pay great attention to those who have power over them, they are likely to be susceptible to emotional contagion from them.

Hypothesis 3: *Attention paid to a target individual mediates the relationship between one's level of power and emotional contagion received from the target. Specifically, those higher (lower) in power are less (more) likely to receive emotional contagion by someone of lower (higher) power because of the lower (higher) amount of attention paid to that target.*

METHOD: STUDY 1

In designing the methods for the current study, we viewed the manipulation of power as particularly important in examining the relationship among power, attention, and emotional contagion. Because power is defined as the relative capacity to modify a target's attitudes or feelings due to having control over valued resources and the capacity to administer rewards and punishments (Keltner et al., 2003; Emerson, 1962), we attempted to improve how power was manipulated by giving all control over a task to one subject. While this subject may not have been able to administer punishments, he or she did have control over making decisions and accepting input from the partner.

Although many extant studies examining power use this definition, they primarily examine the psychological effects that power has on an individual's behavior, cognitions, and affect (e.g., Galinsky, Gruenfeld, & Magee, 2003; Anderson & Berdahl, 2002). For this reason, many studies manipulate power by priming participants with a power mindset by asking them to recall a time in which they had more or

less power (Galinsky et al., 2003; Anderson & Galinsky, 2006; Chen et al., 2001; Fast, Sivanathan, Mayer, & Galinsky, 2012, Experiments 1-4; Inesi, 2010; Tost, Gino, & Larrick, 2012). However, the current study seeks to examine how actually having power over another subject affects individuals in a relational context (i.e., with other people over whom they have power or who have power over them) rather than simply priming a power mindset. Studies that have examined the relational effects of power have done so by assigning one participant to a manager role and the other to a subordinate role allegedly based on subjects' scores on a leadership skill questionnaire (e.g., Spoor & Kelly, 2009). However, this may confound power with ability and thus a stronger power manipulation may be created by having one participant actually control the decision-making in a situation, creating asymmetrical control over resources (i.e., decisions), a key element in the definition of power (Keltner et al., 2003).

Participants

Data were collected in a laboratory setting using a sample of students enrolled in an introductory business class at a large public university in the US. Specifically, the sample consisted of 62 dyads, however, four people had to be removed due to technical difficulties¹, thus resulting in a total *N* of 120. Subjects were 50.4% male, 49.6% female, an average age of 20, and 80.1% White, 8.3% Asian, 5% Black, and 3.3% Hispanic or Latino. They were randomly assigned either the high- or low-power role, and both subjects received a mood manipulation (positive affect or negative affect) prior to engaging in the task. This was done in order to induce differences in beginning mood. The dependent variable of interest—emotional contagion—occurs when one individual's mood moves toward the mood of the other. Thus, in order to observe whether this occurred, it is necessary that the two individuals do not begin in the same mood. Given the outcome of interest (i.e., emotional contagion), only two conditions were tested: (1) High-power induced with positive affect (PA), low-power induced with negative affect (NA); (2) High-power induced with NA, low-power induced with PA.

Procedure

An experimenter explained to subjects that they would first engage in a film-rating task, and then go to another room where they would engage in a discussion task with a partner. In order to enhance the cover story, subjects were told that these were two separate and unrelated studies.

The purpose of the film-rating task was to deliver the mood manipulation. Although the film-rating data were not used in the experiment, it ensured that participants paid sufficient attention to the film and also increased the cover story of the task. Subjects watched and “rated” one of two clips from films, lasting approximately six minutes each. One film was a humorous clip from the comedy “Mrs. Doubtfire” (used to induce PA) and the other was a sad clip from the drama “Steel Magnolias” (used to induce NA). This method and length of clips have been used in prior studies that manipulate mood (e.g., Saavedra & Earley, 1991; Sy et al., 2005; Spoor & Kelly, 2009). After watching the clip, subjects completed an assessment of their current mood.

At this time, the two subjects were sent to a smaller, separate room where the experimenter explained that one subject had been randomly assigned to be the “leader,” and this person has all of the power and control over the discussion task such as the decisions they make and how the discussion proceeds. A similar manipulation for power involving the assignment of a subject as the “leader” in a task and giving that person control over decision making was used by Waytz, Chou, Magee, and Galinsky (2015). Moreover, this manipulation mirrors a common type of power difference in organizations where a high-power individual, such as a supervisor or manager, often controls both the process and decision outcomes in task-related contexts. It was important that subjects understood that the “leader” role was determined randomly, so that they did not believe it had to do with one's personal characteristics such as ability. It was also important that the assignment of high- and low-power roles occurred prior to the partner discussion task in order to be able to study subjects' patterns of attention and emotional contagion during the group discussion task.

Following this explanation, the experimenter gave the instructions for the task, which was to complete a winter survival task (Johnson & Johnson, 1994) in which they had to discuss and determine the importance

of fifteen items for survival following a plane crash in Canada during mid-winter (e.g., Spoor & Kelly, 2009).

At the conclusion of the group discussion task, subjects answered a series of questions to assess their mood and their attention to their counterpart (as well as control variables discussed below). Following the completion of the measures, participants were debriefed and dismissed.

Measures

Emotional Contagion

In order to measure emotional contagion, subjects needed to have a measure of emotions prior, during, and after the discussion task. Measures were collected in two ways: self-report and other-observed. First, subjects themselves completed a measure immediately before and immediately following the task using the PANAS (Watson, Clark, & Tellegen, 1988), which consists of twenty emotional descriptors (e.g., enthusiastic, inspired, ashamed, irritated). Subjects indicated to what extent they were currently feeling each, from 1, “*very slightly or not at all*,” to 5, “*extremely*.” PA and NA are determined by averaging the values given to respective positive and negative descriptors. In previous studies examining emotional contagion (e.g., Hsee et al., 1990; Spoor & Kelly, 2009; Barsade, 2000), shorter, more generic scales were used to measure affect, but the use of the 20-item PANAS allows for a more complete picture of subjects’ moods.

Second, emotions were also measured using coding by three outside observers, and followed the coding procedure by Barsade (2002). Each interaction was videotaped and subsequently coded by coders blind to the purpose of the study. The three coders were extensively trained and reached an inter-rater reliability of 83% by the end of the training, which included independently coding videos and then coming together to discuss rationale behind their ratings. Coders then independently rated one-third of the remaining videos², observing the affect of participants by watching participants’ facial expressions, body language, and verbal tone to rate their affect on the eleven items used by Barsade (2002): sad, pleasant, unhappy, interested, pessimistic, happy, gloomy, lethargic, optimistic, depressed, and warm on a scale of 1, “*very slightly or not at all*,” to 7, “*extremely*.” This scale was chosen for the coded emotions because it keeps with the rating methods used by prior emotional contagion studies (i.e., Barsade, 2002), as well as studies examining observers’ accuracy in perceiving others’ emotions. More specifically, while evidence shows individuals are aptly able to report their own emotions measured by the PANAS, no research exists examining observers’ accuracy in measuring these emotions. Some research suggests that individuals may be able to accurately perceive certain emotions better than others (Montagne, Kessels, De Haan, & Perrett, 2007) and thus, using a scale that has been previously used to measure others’ ratings of individuals’ emotions is more appropriate. Due to very low levels of variance on two of the NA items—sad and depressed—these items were removed and not used in analyses. Videos were split into thirds, and coders rated affect separately for each third of the video. Coders rated one subject throughout the duration of the interaction so that they could use the subject’s prior emotional display as a basis for change over the course of interaction. The average length of the interactions was 9 minutes and 3 seconds, so the average length of the thirds was 3 minutes and 1 second, which is similar to the coding strategy followed by Barsade (2002).

Emotional contagion was calculated by subtracting the absolute value of the difference between the subject’s ending affect and their partner’s initial affect from the absolute value of the difference between subject’s and partner’s initial affect. A detailed description and examples regarding this calculation can be found in Appendix A. The calculation used the subject’s self-report measures and the partner’s observer-rated measures because it matches the situation that subjects encountered: subjects interact with their partner and observe their moods. According to emotional contagion theory (Hatfield et al., 1994), subjects should observe and mimic partners’ emotional expressions and then come to feel similar emotions through afferent feedback. Thus, using observer-rated measures of the partner’s emotions mirrors subjects’ experience and using self-report measures of their own emotions tells us about their own emotional experience that may not be outwardly expressed.

Attention

Attention was also measured by coder ratings as well as self-report. For coded ratings, attention is operationalized by gauging subjects' direction of gaze. Importantly, it is recognized that eye movements are a reliable and clear manifestation of where individuals allocate their attention in a scene (Henderson, 2003). It is appropriate to use coders to rate subjects' attention as individuals are adept at assessing the direction of others' eye movements (Von Grünau & Anston, 1995), and thus attention is supported both by theoretical models (Baron-Cohen 1994, 1995a, 1995b; Langton, 2000) and evidence from human subjects (e.g., Langton, 2000). In fact, Baron-Cohen (1994, 1995a, 1995b) and Langton (2000) suggest that because attention is directed toward that which is most informative, as discussed above, being able to assess the direction of others' attention is an adaptive, innate behavior that facilitates detection and response to informative cues in the environment. A coder rated subjects' attention to their counterparts using two metrics. The first is the total amount of time focused on the counterpart, assessed by how long a subject was looking at the face and/or body of the counterpart, as a proportion of the total length of the interaction (or "attention percentage"). A coder, blind to the hypotheses, used a stopwatch to record this time and stopped and started it over the duration of the interaction. The second metric is mean gaze duration (or "average gaze length"), which provides information about the intensity of a subject's attention to another. Similar metrics have been used in other studies using eye gaze as an operationalization of attention (e.g., Foulsham et al., 2010; Birmingham, Bischof, & Kingstone, 2008).

Attention was also measured using a self-report measure. Subjects were asked what proportion of their attention they allocated to different targets by having them divide a circle into pieces that represent how much they paid attention to each stimulus. Specifically, the instructions read: "This circle represents 100% of your attention during this previous group task. Please move the pieces of the circle to represent the percentage of time you spent paying attention to each of the following." The options included the other person in the group, the task, and 'other.'

Control Variables

Five variables were used as controls: gender, prior knowledge of partner, susceptibility to emotional contagion, and task and outcome interdependence. For the first two controls, subjects were asked to report their gender and whether they knew their counterpart prior to meeting them that day, as these variables may affect attention (e.g., Koch & Ullman, 1985). Susceptibility to emotional contagion was measured using five items from Doherty's (1997) scale. Although the original scale consists of fifteen items (three items for each emotion—sadness, happiness, love, fear, and anger), subjects answered the highest loading item for each emotion ($\alpha = 0.54$; e.g., "I notice myself getting tense when I'm around people who are stressed out").

Feelings of both task and outcome interdependence were also controlled for, as the extent to which one perceives interdependence with another can affect one's attention (Tjosvold, 1985; Lammers, Stoker, & Stapel, 2009). Perceived interdependence was measured by adapting van der Vegt, Emans, and van de Vliert's (1998) scales of both task ($\alpha = 0.84$; e.g., "To what extent did you depend on this person for information and advice?") and outcome interdependence ($\alpha = 0.64$; e.g., "The things that this person wants to accomplish and the things I want to accomplish are compatible").

RESULTS AND DISCUSSION: STUDY 1

Means, standard deviations, and correlations for all variables can be found in Table 1. Since attention was measured in two ways (i.e., self-report and coded), it is important to discuss how these measures relate to each other in order to understand if there are differences in how individuals thought their attention was allocated (self-report) compared to coded attention. Since emotional contagion is thought to occur outside of conscious awareness (Hatfield et al., 1994), the measurement of attention in both ways will help clarify whether the type of attention used in emotional contagion is within and/or outside of awareness. The two coded measures of attention—attention percentage and average gaze length—correlate highly at 0.79 ($p < .01$), but self-reported attention does not significantly correlate with attention percentage (0.01) or average

gaze length (-0.01). These low correlations between the coded and self-report measures of attention suggest that individuals may not be accurate at reporting their own attention allocation.

Manipulation Checks

Both power and initial mood (positive and negative affect) were effectively manipulated in this study. There was a significant difference in perceptions of power in the partner discussion task ($F(1, 118) = 108.73, p < .01$), thus demonstrating a successful power manipulation. Participants who watched the sad movie clip reported significantly more initial negative affect than those who watched the happy movie clip ($F(1, 118) = 60.67, p < .01$), and participants who watched the happy movie clip reported significantly more initial positive affect than participants who watched the sad movie clip ($F(1, 118) = 52.57, p < .01$). Thus, initial positive and negative affect were successfully manipulated. However, this manipulation only worked with self-report measures of emotion. There was no significant difference in coded initial PA ($F(1, 118) = 0.03, p = 0.86$) or coded initial NA ($F(1, 118) = 0.02, p = 0.88$).

To test Hypothesis 1, that power is negatively related to attention, a regression analysis was run to test the relationship between power (dummy-coded) and attention, the results of which support a negative relationship between power and attention as measured by attention percentage ($\beta = -0.11, p < .01$) and average gaze length ($\beta = -1.26, p < .01$). However, there was no significant relationship between power and self-reported attention ($\beta = 1.14, p = 0.66$; see Table 2). These results support Hypothesis 1 using the behavioral coded measures of attention.

In order to test Hypothesis 2, the relationship between attention and emotional contagion, PA contagion and NA contagion were independently regressed onto the three measures of attention. There were no significant relationships between any of the measures of attention and PA contagion (attention percentage: $\beta = -0.64, p = 0.18$; average gaze length: $\beta = -0.03, p = 0.42$; self-report attention: $\beta = 0.00, p = 0.36$). For NA contagion, while there were no significant relationships between average gaze length ($\beta = 0.01, p = 0.82$) or self-report attention ($\beta = 0.00, p = 0.88$) and NA contagion, there was a marginally significant positive relationship between attention percentage and NA contagion ($\beta = 0.84, p = 0.07$; see Table 3). These results marginally support Hypothesis 2, but only for the behavioral coded measure of attention percentage and only with NA contagion.

In order to test for mediation as hypothesized in Hypothesis 3, we first tested the direct effect of power on emotional contagion by regressing emotional contagion on power (dummy-coded). This analysis was marginally significant for PA contagion ($\beta = -0.20, p = 0.07$), but not significant for NA contagion ($\beta = 0.03, p = 0.72$) as shown in Table 4.

To explore whether there is support for mediation for the three measures of attention, we conducted 5,000 Monte Carlo intervals (Mackinnon, Lockwood, & Williams, 2004; Bauer, Preacher, & Gil, 2006). For PA contagion, there was no significant mediation for any of the measures of attention (attention percentage: -0.03 to 0.20; average gaze length: -0.05 to 0.15, self-report attention: -0.03 to 0.02). For NA contagion, there was marginally significant mediation for attention percentage (90% CI: -0.19 to -0.01)³, but no significant mediation for average gaze length (-0.11 to 0.08) or self-report attention (-0.02 to 0.03). These results marginally support Hypothesis 3, but only with the behavioral coded measure of attention percentage and only with NA contagion.

The results from Study 1 marginally support our hypotheses, but only with observer-rated measures of attention and only for negative affect contagion. The conclusions that can be drawn from this study rely on data collected in a laboratory setting with student subjects in which power relationships were manipulated. While power was successfully manipulated such that subjects in the high-power condition perceived themselves to have had significantly more power in the task than low-power subjects, the nature of the power differentials that these subjects experienced may be different than that experienced by those in organizational settings. In addition, subjects in this study knew that their participation was limited to one hour, and thus any power one subject held over the other was time-limited. While this study was especially suited for testing the relationship of attention on emotional contagion, the power relationships may not

mirror those that are experienced in organizations, which tend to be longer-term and allow for more complex dynamics to form.

METHOD: STUDY 2

In order to address the limitation of the artificial power relationships in Study 1, we conducted a second study with employees who answered questions regarding a real power relationship with someone in their work environment. Additionally, Study 2 provided us with the opportunity to use a different methodology and measures for the variables of interest, therefore providing a more robust test of our hypotheses.

Data were collected from working professionals ($N = 221$) using Qualtrics Panels, a method that ensures respondents vary widely in job positions and types of organizations, thus increasing external validity (see Brandon, Long, Loraas, Mueller-Phillips, and Vansant, 2014). Moreover, Qualtrics Panels utilized by-invitation-only surveys such that self-selection bias can be avoided. Participants were asked to identify an individual with whom they work and answer some questions about their relationship with that individual. Participants were presented the following information: “Power is an individual's capacity to control - by withholding or administering - resources that another person values. These resources can be material, such as job assignments, job evaluations, and pay raises, and can also be non-material, such as knowledge, information, and decision-making opportunities.” In order to help assure variance on the measure of power, half of the participants were then instructed to choose someone over whom they hold power, while the other half were instructed to choose someone who holds power over themselves.

Participants completed two surveys approximately one month apart. During the first survey, they completed measures of power and control variables, and in the second survey, they completed measures of attention and emotional contagion. By separating the measurement of the independent and dependent variables, we were able to mitigate concerns about same-source bias.

Measures

Unless otherwise specified, Study 2 variables used a 5-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree).

Emotional Contagion

Emotional contagion was measured using a self-report measure based on Doherty's (1997) emotional contagion scale, comprising of two items to measure positive affect contagion ($\alpha = 0.86$; example item: “If _____ is happy and positive, it puts me in a good mood”) and two items to measure negative affect contagion ($\alpha = 0.82$; example item: “When _____ is upset or angry, it puts me in a bad mood”).

Attention

Four items adapted from Reiffe, Oosterveld, Miers, Terwogt, and Ly's (2008) measure of attending to others' emotions were used: (1) “When this person is in a bad mood, it catches my attention,” (2) It is important to know how this person is feeling,” (3) “When this person is in a good mood, I am more attentive to him/her,” and (4) “I usually know how this person is feeling” ($\alpha = 0.74$).

Power

Although respondents were instructed to pick a target that they either had power over or that had power over them, the purpose of this was to achieve variance in power. The mean (2.97) and standard deviation (0.99) of this variable show that there was considerable variance, thus justifying using a continuous measure of power in Study 2. Hinkin and Schriesheim's (1989) measures of coercive and reward power were used and combined for an overall 8-item power measure ($\alpha = 0.88$). These two scales were chosen, rather than the other measures (legitimate, referent, and expert), because they fit the definition of power used in this paper: “one's relative control over valued resources and the capacity to administer rewards and punishments” (Keltner et al., 2003; Emerson, 1962). Since this definition encompasses both administering

rewards (reward power) and administering punishments (coercive power), there is a theoretical basis to justify the combination of these two scales to measure power. The scale was prompted with “I believe this person can...” and sample items include: “Increase my pay level” and “Make work difficult for me.”

Control Variables

Participant’s gender, the target’s gender (both dummy coded where 1 = male, 2 = female), and the participant’s tenure were controlled for as these things may affect the amount of power one feels as well as their attention to them (French & Raven, 1959; Henley & LaFrance, 1984; Koch & Ullman, 1985). Whether one has a formal power relationship with their counterpart was also controlled by asking the question, “Do you/does this person hold a formal position of authority over this person/you (for example, supervisor or boss)?” This variable was dummy-coded (1 = *yes*, 2 = *no*) in analyses. Finally, length of relationship with one’s chosen target was controlled for (measured by one question: “How long have you known this individual?”), as well as frequency of interaction (measured by one question: “On average, how frequently do you have interactions with this person?” Response choices: 1 = *Once a month or less*, 2 = *Several times a month*, 3 = *Once a week*, 4 = *Several times a week*, 5 = *Once a day*, 6 = *2-3 times a day*, 7 = *4-5 times a day or more*), as these variables may affect attention.

RESULTS AND DISCUSSION: STUDY 2

Means, standard deviations, and intercorrelations for this data can be found in Table 5. To test Hypothesis 1, that power is negatively related to attention, a regression yielded results that support Hypothesis 1 ($\beta = -0.11, p < .05$). These results replicate findings from prior studies of power and attention (e.g., Neuberg & Fiske, 1987; Keltner & Robinson, 1997), but with new methodology and measures. More specifically, to our knowledge, this study is the first to use self-report measures with a longitudinal methodology to test this relationship.

Hypothesis 2 predicted a positive relationship between attention and emotional contagion, which was also supported by our regression results for both PA ($\beta = 0.57, p < .01$) and NA ($\beta = 0.57, p < .01$). In order to test Hypothesis 3 regarding the mediation of attention on the power—emotional contagion relationship, we first tested the direct effect of power on emotional contagion with a regression analysis. This analysis was significant for NA ($\beta = -0.23, p < .01$) but not significant for PA ($\beta = -0.08, p = 0.13$). To explore whether there is support for mediation, we conducted 5,000 Monte Carlo intervals (Mackinnon et al., 2004; Bauer et al, 2006). The results support a significant mediation for both NA contagion (-0.13 to -0.01) and PA contagion (-0.12 to -0.01), therefore supporting Hypothesis 3. While the results from Study 2 mostly parallel those from Study 1, they more strongly support Hypotheses 2 and 3.

GENERAL DISCUSSION

This research integrates two streams of power theory: one that examines how power affects the behaviour and goals of those who do or do not have it (i.e., Power Approach Theory; Keltner, et al., 2003), and another that examines how those who have power influence those who do not (i.e., the bases of power; French & Raven, 1959). More specifically, Power Approach Theory suggests that the respective goals of high- and low-power individuals induce patterns of attention such that high-power people tend to pay little attention to those with low power, and low-power individuals pay great attention to those that hold power over them. The latter stream of power theory contends that those with power hold a greater potential to change the beliefs, attitudes, or behaviors of others (Bruins, 1999; Bugental, Blue, & Cruzcosa, 1989; Buss, Gomes, Higgins, & Lauterbach, 1987; Kipnis, Schmidt, & Wilkinson, 1980; Yukl & Falbe, 1990). The results of these studies suggest that the goals and behaviors induced by one’s relative level of power may help explain the patterns of influence between them, thus better linking these two different streams of power research. Specifically, our results indicate that attention (i.e., one of the behaviors affected by goals) mediates the relationship between power and emotional contagion, particularly in the case of negative affect contagion. In other words, our results suggest that because low-power individuals pay great attention to the

powerful, they may be especially susceptible to emotional contagion from them. In contrast, because high-power individuals are unlikely to attend to those with low power, they are unlikely to receive emotional contagion from those low-power individuals.

This finding helps unpack the relationship between power and emotional contagion by examining the role of attention, which has previously been discussed in theory on emotional contagion (Hatfield et al., 1994) but had remained empirically untested. By measuring attention and testing its effect on emotional contagion, the inconsistent results across previous studies examining the relationship between power and emotional contagion (Hsee et al., 1990; Spoor & Kelly, 2009; Anderson et al., 2003) may be better disentangled. The data from our studies were especially suited to test the mediation of attention on the power—emotional contagion relationship. Analyses from Study 1 supported this mediation, but only for negative affect contagion, and only with the observer-rated measure of attention percentage. Moreover, this mediation was marginally significant, likely due to the marginally significant indirect effect of attention on NA contagion.

This significant result only for negative affect contagion in Study 1 supports results from prior research on emotional contagion that people are more likely to catch negative emotions than positive emotions (Spoor & Kelley, 2009; Bartel & Saavedra, 2000; Bakker, Le Blanc, & Schaufeli, 2005). This may be because negative emotions are theorized to be of more informational value to individuals by communicating potential threats (Rolls, 1992; Spoor & Kelly, 2004). This suggests that emotional contagion may be functional (Anderson et al., 2003), in that the greater emotional similarity that results may benefit partners by helping coordinate responses to environmental threats or opportunities (Festinger, 1951; Hatfield et al., 1994), or by fostering the well-being of a relationship (LaFrance & Ickes, 1981; Locke & Horowitz, 1990; Rosenblatt & Greenberg, 1991; Schachter, 1959).

However, in Study 2 we found significant mediation for both positive and negative affect contagion, supporting other research that has also found effects of positive affect contagion (e.g., Barsade, 2002; Bono & Iles, 2006; Liang & Chi, 2013). Since our second study was conducted in a field setting with employees responding about real power relationships with those they work with, this more realistic context may have been more conducive to significant findings regarding positive affect contagion than our laboratory setting in Study 1. Finally, another interesting finding from Study 2 was the weak correlation between emotional contagion and interaction frequency, suggesting that attention really is the mediating mechanism in this relationship, rather than simply how often individuals interact with one another.

Methodological Contributions

The current research also makes valuable methodological contributions to the literature. For example, within the extant literature on power and attention, attention has been measured by examining individuals' use of stereotype-consistent or stereotype-inconsistent information in forming impressions of others (e.g., selecting candidates for a job position) (Overbeck & Park, 2006). This methodology is valuable in that it has begun to illustrate how high- and low-power individuals differ in attending to others. However, the methods of the current studies may also illuminate how high- and low-power individuals attend to others in a behavioral context in which they are interacting and working with one another, which may be more applicable to organizational and work contexts. In one study, we used behavioral measures for attention, by having coders observe and rate the amount and intensity of participants' attention, while attention in the other study was measured using a self-report scale which tapped both general attention to a counterpart and attention to that counterpart's emotions within their workplace environment.

Additionally, Study 1 used a novel way of measuring and calculating emotional contagion. While prior studies (e.g., Spoor & Kelly, 2009; Barsade, 2002; Sy, et al., 2005) have calculated emotional contagion by only looking at the difference between the subject's beginning and ending emotions, the method used in the current research better fits the definition of emotional contagion as an individual's move *toward* another's emotions (Hatfield et al., 1994). This takes into account the specific starting point of the partner, and more precisely measures how close subjects moved toward their partner. Moreover, controlling for the partner's change in emotions over the course of the interaction paints a more complete picture of the

emotional information the subject was exposed to from the partner, to which they had the potential to pay attention and thus become emotionally contagioned.

Finally, Study 1 also used a novel way of calculating emotional contagion by using the subject's self-report emotions and the partner's displayed emotions. Prior studies on emotional contagion have measured subjects' emotions using both self-report and observer-rated methods. However, the current research builds upon these methods by using observer-rated emotions as a measure of the emotional expressions of partners. This method is directly linked to the process outlined in emotional contagion theory whereby individuals pay attention to a target, mimic that target's emotional expressions, and come to experience similar emotions through afferent feedback (Hatfield et al., 1994). In other words, using observer-rated emotions mirrors the situation experienced by the subject, as it measures the emotional expressions the subject was exposed to and thus would mimic (if paying attention). Importantly, research has found that even though emotional displays often match felt or experienced emotions, this is not always the case (Hochschild, 1979; Rafaeli & Sutton, 1991; Grandey, 2003). Thus, a method that calculates emotional contagion using the partner's self-reported emotions may not accurately mirror the partner's emotional displays to which the subject was exposed. This is supported by the low correlations between self- and other-ratings of emotions found in this study.

Limitations and Directions for Future Research

Each of our studies has some limitations. As discussed above, the artificial power relationships created in the laboratory setting in Study 1 may not completely mirror the types of power relationships that individuals experience in the workplace. However, our second study provides a different test of the hypotheses using a sample in which there are real working power relationships at play. Using two studies with different samples provides a more robust test of the hypotheses. However, the different measures of attention and emotional contagion used in the two studies may not map cleanly onto each other and thus may explain the differences in the findings between the two studies. Therefore, findings should be interpreted in light of the measures used in each study. For example, in our first study, we found a low correlation between the coded and self-report measures of attention, suggesting that individuals may not be accurate at reporting their own attention allocation. However, the self-report measures used in the two studies were different. Specifically, in Study 1, participants were asked to divide up a circle to represent their attention allocation during the task. Thus, their attention to the other person was reported in comparison to their attention to other things. In contrast, respondents in Study 2 used a Likert-type rating to indicate how much attention they pay to the target, thus not comparing it to attention they pay to other things. Moreover, Study 2 measured attention specifically to the target's emotions, whereas Study 1 measured only general attention toward the target.

A direction for future research, then, is to explore the relationship between individuals' attention allocation and their awareness of their attention allocation. While this particular issue was outside the focus of this study, future research may investigate the accuracy of individuals' self-reports of attention. In addition, another direction for research involves how leaders pay attention to their subordinates, presumably a requisite for effective leadership (e.g., Wilemon & Cicero, 1970; Yukl, 1989). However, if people are relatively inaccurate in the reporting of their attention, it is quite possible that leaders may unintentionally neglect the subordinates who may need more attention in general and, more specifically, supportive behaviors as well as direction regarding role perceptions and goal achievement.

Our laboratory study also supported previous research that found a negative relationship between power and attention to others. However, this goes against the idea that leaders are most effective when they attend to their followers. In fact, Keltner (2016) suggests that when powerful individuals empathize with others—the first step of which is to attend to others' emotions—they are able to enjoy enduring power. This may have important implications for leaders who need to maintain their power in order to lead effectively over time. Thus, a future research direction is to identify when and why powerholders' attention to low-power counterparts may actually increase. For example, if those with power are unlikely to attend to others unless they are instrumental to goal achievement, it may be fruitful to explore situations in which leaders view

their subordinates as more capable of providing valuable contributions, in order to determine when their attention may increase.

Practical Implications

Based on the current research, there are a number of practical implications for organizations to consider. First, employees with lower power are likely to be attended and listened to less, especially by other employees and leaders with more power. While this is not particularly surprising, today's modern organizations can only survive and thrive using innovation and creativity generated by the talented people they hope to attract and retain. However, newer employees, or perhaps those feeling less powerful in general, are likely not listened to as much when it comes to creative discussions and more innovative, modern, and outside-of-the-box ideas, for example. Furthermore, with emotional contagion being an important form of influence, employees are most likely having their moods, attitudes, and actual performance impacted more than they might think by those working with and around them. More disturbingly, this current research suggests that negative affect is more likely to be spread to others than positive affect, which is especially concerning given that negative emotional experiences at work likely decrease employees' affective commitment (Kolakowski, Royle, Walker, & Pittman, 2020). Thus, organizations may need to be better aware of these damaging effects, perhaps from more toxic leaders and other employees, and particularly from those that wield more power. In addition, given that Cox, Mitcheva, and Cole (2021) found a positive relationship between emotional intelligence and emotional contagion, it's quite possible that these effects and emotional connections between team members aren't being fully realized for those with less power that aren't being attended to. Conversely, leaders and team members with higher emotional intelligence likely are better at attending to others they work with, pointing to the value of hiring and training practices that include emotional intelligence metrics, as well as more robust inclusivity practices that can help leaders and team members pay more attention to those with less power. Taken together, better communication between leaders and employees regarding the impact and role of emotions in the workplace would serve organizations well, along with more culture building and inclusivity practices that try to create and reward better norms for positive affectivity versus negative in the workplace.

ENDNOTES

1. The subjects were removed because they were outside of the camera view for a portion of the interaction, and thus attention could not be coded.
2. In order to ensure that coders remained consistent once they independently rated videos, we conducted ANOVAS on the average ratings for each item by coder. None of the analyses were significant, indicating no significant differences by coder.
3. This confidence interval is a 90% confidence interval, which does not include 0, suggesting a marginal significant mediation relationship. This marginal significance is likely due to the marginal significance of the indirect effect of attention on NA emotional contagion. A 95% confidence interval does include 0 (-0.22 to 0.00), meaning this mediation has a p-value between 0.05 and 0.10.

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APPENDIX

TABLE 1
MEANS, STANDARD DEVIATIONS AND INTERCORRELATIONS FOR VARIABLES IN
STUDY 1. NOTE N = 120

	1	2	3	4	5	6	7	8	9
1. Gender	--								
2. Knew Partner	0.04	--							
3. Susceptibility to EC	0.26**	-0.30**	--						
4. Engagement	-0.25**	-0.01	-0.07	--					
5. Outcome Interdependence	-0.11	0.05	-0.03	0.05	--				
6. Task Interdependence	-0.01	0.08	0.08	0.06	0.23*	--			
7. Power Condition	0.09	-0.04	-0.04	0.09	0.02	0.12	--		
8. Partner Change in PA	-0.12	-0.12	-0.04	-0.08	0.07	0.09	-0.04	--	
9. Partner Change in NA	0.07	0.10	-0.01	0.04	0.00	-0.12	0.02	-0.46**	--
10. PA Contagion	0.08	-0.04	-0.05	-0.01	-0.06	-0.02	-0.15	-0.15	0.15†
11. NA Contagion	-0.07	0.10	0.21*	-0.01	-0.02	-0.13	-0.03	-0.01	0.18*
12. Attention Percentage	0.04	-0.06	0.00	-0.25**	-0.11	-0.09	-0.45**	0.02	0.00
13. Average Gaze Length	0.07	-0.01	-0.11	-0.24**	-0.11	0.06	-0.39**	0.08	-0.01
14. Self-Report Attention	-0.06	0.02	0.04	-0.05	-0.07	0.04	0.02	-0.09	-0.08
Mean	1.50	0.04	3.45	4.92	5.71	3.34	0.49	0.45	-0.01
Standard Deviation	0.50	0.20	0.62	0.99	0.89	0.80	0.50	0.60	0.44

	10	11	12	13	14
1. Gender					
2. Knew Partner					
3. Susceptibility to EC					
4. Engagement					
5. Outcome Interdependence					
6. Task Interdependence					
7. Power Condition					
8. Partner Change in PA					
9. Partner Change in NA					
10. PA Contagion	--				
11. NA Contagion	0.05	--			
12. Attention Percentage	-0.02	0.12	--		
13. Average Gaze Length	0.01	-0.04	0.79**	--	
14. Self-Report Attention	-0.08	0.03	0.01	-0.01	--
Mean	-0.01	0.21	0.21	3.08	28.91
Standard Deviation	0.57	0.56	0.12	1.54	13.47

TABLE 2
RESULTS OF ANALYSES TESTING THE INDIRECT EFFECT OF POWER ON THE THREE MEASURES OF ATTENTION

Independent Variables	DV: Self-Reported Attention	DV: Average Gaze Length	DV: Attention Percentage
Intercept	33.82**	7.41**	0.55**
Gender	-2.91	0.36	0.01
Knew Partner	3.11	-0.83	-0.07
Susceptibility to EC	1.66	-0.55*	-0.02
Outcome Interdependence	-1.34	-0.20	-0.01
Task Interdependence	0.75	0.33*	0.00
Engagement	-1.01	-0.30*	-0.02*
Power	1.14	-1.26**	-0.11**
	F = 0.38**	F = 5.69**	F = 5.81**
	N = 120	N = 120	N = 120

TABLE 3
RESULTS OF ANALYSES TESTING THE INDIRECT EFFECT OF ATTENTION ON
EMOTIONAL CONTAGION

Independent Variables	DV: PA Contagion			DV: NA Contagion		
	Intercept	0.94†	0.87	0.80	-1.32**	-1.06*
Gender	0.14	0.14	0.12	-0.21*	-0.19†	-0.19†
Knew Partner	-0.36	-0.33	-0.30	0.57*	0.52†	0.51†
Susceptibility to EC	-0.13	-0.13	-0.11	0.30**	0.29**	0.28**
Partner's Change	-0.16†	-0.15	-0.16†	0.22*	0.23*	0.23*
Power	-0.27*	-0.23*	-0.20†	0.10	0.01	0.00
Attention Percentage	-0.64			0.84†		
Average Gaze Length		-0.03			0.01	
Self-Reported Attention			0.00			0.00
	F = 1.73	F = 1.52	F = 1.56	F = 3.42**	F = 2.77*	F = 2.76*
	N = 120	N = 120	N = 120	N = 120	N = 120	N = 120

TABLE 4
RESULTS OF ANALYSES TESTING THE DIRECT EFFECT OF POWER ON
EMOTIONAL CONTAGION

Independent Variables	DV: PA Contagion	DV: NA Contagion
	Intercept	0.74
Gender	0.13	-0.21†
Knew Partner	-0.32	0.58*
Susceptibility to EC	-0.12	0.30**
Outcome Interdependence	-0.02	0.00
Task Interdependence	0.03	-0.11†
Engagement	0.01	-0.02
Partner's Change in Emotions	-0.16	0.20
Power	-0.20†	0.03
	F = 1.08	F = 2.51**
	N = 119	N = 119

TABLE 5
MEANS, STANDARD DEVIATIONS, AND INTERCORRELATIONS FOR VARIABLES IN
STUDY 2. NOTE *N* = 221

	1	2	3	4	5	6	7	8	9
1. Gender	--								
2. Target Gender	0.34**	--							
3. Tenure	-0.04	0.02	--						
4. Length of relationship	-0.07	0.12†	0.59**	--					
5. Interaction frequency	0.07	0.01	0.09	0.14*	--				
6. Formal power position	0.20**	0.15*	-0.10	-0.10	-0.08	--			
7. Power	0.05	0.18**	0.17*	0.02	-0.02	0.39**	--		
8. PA Contagion	0.08	0.04	0.05	0.05	0.14*	-0.03	-0.09	--	
9. NA Contagion	0.15*	0.11	-0.08	-0.07	-0.02	0.07	-0.17**	0.39**	--
Mean	1.44	1.40	8.78	6.83	5.10	1.30	2.98	3.74	2.91
Standard Deviation	0.51	0.50	7.86	7.36	1.57	0.46	0.99	0.72	0.94

TABLE 6
RESULTS OF THE REGRESSION ANALYSIS TESTING THE RELATIONSHIP OF POWER
AND ATTENTION

Independent Variables	
Intercept	3.19**
Gender	0.08
Target gender	0.16†
Tenure	0.01
Length of relationship	0.00
Interaction frequency	0.08**
Formal power position	-0.09
Power	-0.12*

F = 3.90**
N = 221

TABLE 7
RESULTS OF THE REGRESSION ANALYSES TESTING THE DIRECT EFFECT OF
ATTENTION ON PA AND NA CONTAGION

Independent Variables	DV: PA Contagion	DV: NA Contagion
Intercept	1.55**	0.74
Gender	0.06	0.16
Target Gender	-0.06	0.07
Tenure	0.00	-0.01
Length of Relationship	0.00	-0.01
Interaction Frequency	0.02	-0.06
Formal Power Relationship	0.05	0.16
Attention	0.57**	0.57**
	F = 11.37**	F = 6.51**
	N = 221	N = 221

TABLE 8
RESULTS OF THE REGRESSION ANALYSES TESTING THE DIRECT EFFECT OF POWER
ON PA AND NA CONTAGION

Independent Variables	DV: PA Contagion	DV: NA Contagion
Intercept	1.55**	2.79**
Gender	0.11	0.19
Target Gender	0.04	0.22
Tenure	0.01	0.00
Length of Relationship	0.00	-0.01
Interaction Frequency	0.06†	-0.01
Formal Power Relationship	0.01	0.25†
Power	-0.08	-0.23**
	F = 1.24	F = 2.69*
	N = 221	N = 221

Calculation of the Emotional Contagion Measure

Emotional contagion is defined as one person's mood moving toward another's (Hatfield et al., 1994). Prior studies on emotional contagion have measured contagion as the difference between a subject's initial (time 1) and ending (time 2) emotions (Barsade, 2002; Hsee et al., 1990; Spoor & Kelly, 2009). However, these measures may be unsuitable for the current study. Prior studies (Barsade, 2002; Hsee et al., 1990) have used a constant target (either recorded person or confederate highly trained to display particular affect), and thus the target's affect remains consistent across subjects. However, the current study uses other subjects as the target and thus, it is necessary to account for the target's initial mood in order to see whether the subject's mood moves toward the target's. Indeed, although the manipulation check indicated a successful initial mood manipulation, there was still some variability in initial mood within mood condition, whereas there was no variation in target's initial mood in prior studies.

In the context of the current study, emotional contagion is defined as the extent to which a subject's initial mood (PA_{t1}) changes between the initial time and the ending time (PA_{t2}), and this move is towards the partner's initial mood (Partner PA_{t1}). Thus, simply accounting for change between time 1 and time 2 is insufficient to calculate emotional contagion, as it may change but move away from the partner's mood. Accordingly, the equation for PA contagion is the following:

$$| PA_{t1} - PartnerPA_{t1} | - | PA_{t2} - PartnerPA_{t1} | \quad (1)$$

Please refer to Table 9 below for examples of emotional contagion scores. As can be seen with Subject1, the subject's ending PA (PA_{t2}) moves away from the partner's initial PA (Partner PA_{t1}) and receives a PA Contagion score of -0.4. As can be seen with Subject 2, the subject's ending PA moves away from the initial PA (PA_{t1}) towards the partner's initial PA (Partner PA_{t1}), and thus receives a PA Contagion score of 0.7. In comparison, Subject 3's ending PA moves away from the initial PA (PA_{t1}) towards the partner's initial PA (Partner PA_{t1}), but to a much lesser magnitude than Subject 2, and thus receives a lower PA Contagion score of 0.2.

It is important to note that in these analyses, we also control for the change that occurs in the partner by creating a measure of their change from the beginning to the end. This measure is their end score minus their beginning score, which shows their change over the interaction. A positive value for this would indicate that the partner increased in PA or NA, while a negative value would indicate a decrease in PA or NA.

TABLE 9
EXAMPLES OF EMOTIONAL CONTAGION SCORES

	PA _{t1}	PA _{t2}	Partner PA T1	PA _{t1} - PartnerPA _{t1}	PA _{t2} - PartnerPA _{t1}	PA Contagion Score
Subject1	1.7	2.1	1.4	0.3	0.7	-0.4
Subject2	2.9	2.2	1.8	1.1	0.4	0.7
Subject3	1.4	1.6	3.9	2.5	2.3	0.2