



The influence of follower mood on leader mood and task performance: An affective, follower-centric perspective of leadership

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ABSTRACT

Based on the notion that leadership involves affective exchange (Dasborough, Ashkanasy, Tee & Tse, 2009), we hypothesize that a leader's mood and task performance can be determined in part by follower mood displays. In two laboratory experiments, leaders supervised teams where the team members were confederates instructed to display positive or negative moods. Results were that followers' mood influenced leader mood and task performance. Moreover, leaders of positive mood followers were judged to have performed more effectively and expediently than leaders of followers who expressed negative mood states. We replicated these findings in Study 2 and found further that leaders high on neuroticism performed less effectively than their low neuroticism counterparts when interacting with negative-mood followers. Collectively, by demonstrating that follower moods influence leader affect and behaviors, our studies provide support for a core element of the Dasborough et al. (2009) reciprocal affect theory of leadership.

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1. Introduction

Research on leadership is shifting away from the idea that the phenomenon is driven solely from rational, cognitive processes. Contemporary scholars such as Yukl (2009) portray leadership as form of a social interaction between leaders and followers. Moreover, we note a growing realization over the past decade that emotions play a critical role in organization and leadership, thus creating a new area for scholarly inquiry in this field, freed of the assumption that only logic and rationality underlie human behavior (e.g., see George, 2000; Brief & Weiss, 2002). Advocating further inquiry into the role of emotions in leadership, Ashkanasy, Härtel, and Daus (2002) argue that effective leadership consists of effectively managing not only cognitive, but also emotional aspects of leadership processes to achieve desired organizational outcomes. These authors' suggestions are consistent with Ashforth and Humphrey's (1993) argument that emotions can facilitate decision-making – an integral task for organizational leaders. More recently, Ashkanasy and Humphrey (2011) referred to the growing interest in emotions in leadership research as a part of what Barsade, Brief, and Spataro (2003, p. 3) describe as the “affective revolution”. Against this backdrop, researchers have now begun to investigate the interactive effect of leader affect on team performance (e.g., see Johnson, 2008, 2009; Sy, Côté, & Saavedra, 2005).

In this research, rather than focusing on how leader affect impacts follower performance, we examine the other side of the coin to ask: “How does follower affect impact leader affect and leader task effectiveness?”. In doing so, we respond to calls for follower-centric leadership research (Hollander, 1992; Lord, Brown, & Freiberg, 1999; Lord & Hall, 1992; Weierner, 1997) that seem to have

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only recently been taken up. For example, [Gooty, Connelly, Griffith, and Gupta \(2010\)](#) recently commented that little or nothing is known regarding follower behaviors that impact leader emotions and affect leader's style, behaviors, and perhaps quality of exchanges.

To the best of our knowledge, however, only one study to date has provided evidence (albeit inadvertently) of how low-power individuals might impact the emotions of high-power individuals. The study was a laboratory experiment by [Hsee, Hatfield, Carlson, and Chemtob \(1990\)](#), who initially hypothesized that individuals with more power were more likely to influence the moods of their less powerful counterparts. To test this idea, Hsee and his colleagues manipulated the extent of power between different treatment groups, and suggested that the affective state of individuals with lesser power was more likely to be influenced by individuals with greater power. What these authors found, however, ran contrary to their predictions: individuals with *greater*, not lesser, power were the ones found to be more susceptible to the influence of others' affect.

These findings suggest interesting avenues for a more follower-centric research of leadership effectiveness, particularly one based on affective processes in the leader–follower relationship. It appears that individuals with comparatively lower organizational status might be able to influence those with more formal authority, simply via expressions of positive or negative affect. This idea also aligns with [Hannah, Avolio, Luthans, and Harms \(2008\)](#), who argue that the influence of affect on leadership efficacy may be bi-directional; one in which followers themselves can influence the affect and self-concepts of leaders. In this study, we build on previous research which has shown that leader mood can influence follower mood and team performance ([Johnson, 2008, 2009; Sy et al., 2005](#)). We acknowledge that the influence of affect on leadership can be bi-directional (in that leaders influence, and are also themselves influenced by followers) but adopts a more follower-centric approach to our study as this has not been examined in great detail previously.

Our study is underpinned by [Dasborough et al.'s \(2009\)](#) theoretical model of leader–follower reciprocal affect. Based in turn on [Hareli and Rafaeli's \(2008\)](#) notion of organizational “emotion cycles,” Dasborough and her coauthors theorized that followers' experience and subsequent expression of negative emotions are likely to be caused in the first instance by their attributions about the intentions of leaders who engage in ineffective behaviors such as unwarranted favoritism and insincerity. At the core of these theories is the idea of emotional contagion, which [Hatfield, Cacioppo, and Rapson \(1994: 5\)](#) define as “the tendency to automatically mimic and synchronize facial expressions, vocalizations, postures and movements with those of another person and, to converge emotionally”. The process of emotional contagion may thus be one mechanism that explains how followers' affect is transferred to, and subsequently, affect leadership outcomes. Consequently, rather than the more traditional top-down leader-centric approach, we instead consider how followers' affect impacts leaders' affect and leadership outcomes.

In the present study, therefore, we test one critical link in the [Dasborough et al. \(2009\)](#) theory of leader–follower reciprocal affect, namely, that leader behavior may be explained in part by a process of affective exchange with followers. If this can be shown to occur, then we will have demonstrated, consistent with [Dasborough et al. \(2009\)](#) and [Hareli and Rafaeli \(2008\)](#), that followers' upward influence may be explained, at least in part, in terms of leaders' affective responses to their followers, rather than the more traditional cognitive or top-down views. Further, consistent with [Dasborough and colleagues' \(2009\)](#) propositions, we suggest that this occurs because of emotional contagion processes, such that leaders subconsciously mimic followers' verbal and non-verbal cues of affect, and therefore tend to converge emotionally with their followers.

We tested the foregoing ideas in two laboratory studies. In Study 1, we investigated how followers' mood influences leader mood and leader performance in a laboratory setting. In Study 2, we sought to replicate these findings, and also to look at the effect of leader personality as a potential moderator of this effect.

2. Study 1

In our first study, we sought to establish the direction of influence of mood from followers to leaders. We focus on how follower mood impacts leader mood and performance through emotional contagion processes. Our decision to focus on mood, as opposed to emotion, is motivated by two key reasons. First, we follow [Forgas and George's \(2001\)](#) definition of mood as low intensity, diffuse, and relatively enduring affective states without salient, antecedent causes, and therefore, little cognitive content. Our study focuses on the impact of followers' mood on leader mood, as opposed to emotions, which are high-intensity feelings, triggered by specific stimuli that demand attention and interrupt cognitive processes ([Forgas, 1992; Keltner & Gross, 1999](#)). In this regard, we aim to show that even subtle expressions of follower mood are sufficient to influence leader mood and performance. Second, we aim to extend on [Sy and colleagues' \(2005\)](#) finding that leader mood flows to followers by examining whether followers too can influence their leader's mood and performance.

2.1. Hypotheses

2.1.1. Follower mood effects on leader mood

We first hypothesize, consistent with the [Dasborough et al. \(2009\)](#) reciprocal affect model of leadership, that followers can influence a leader's mood via their own expressions of mood. Building on findings from both [Sy and associates' \(2005\)](#) and [Hsee and colleagues' \(1990\)](#) experimental studies, as well as from [Kelly and Barsade's \(2001\)](#) suggestions of the bi-directionality of how affect may be shared between individuals and groups, we posit that leader perceptions of their followers' displayed mood can directly influence the leader's mood. This hypothesis is also consistent with our theoretical model of how emotions can transcend social hierarchies and permeate formal status differences. Thus, and based on Dasborough and colleagues' model, we suggest that emotional contagion processes underlie this transfer of mood from followers to leaders. In effect, followers' expressions of mood are subconsciously mimicked by leaders, and this process ultimately causes the leaders themselves to also

experience the same moods as that of their followers. This idea is also consistent with research showing that both positive and negative affect can be transmitted from one party to another via contagion (Bono & Ilies, 2006; Sy et al., 2005; Totterdell, 2000). As such, we argue that even individuals with comparatively less social influence (i.e. followers) may also be capable of influencing those with comparatively more power (i.e. leaders) through emotional contagion. As such, we first hypothesize that:

Hypothesis 1. Leaders experience and display positive (negative) mood when leading groups exhibiting positive (negative) mood.

2.1.2. Leader mood effects on leader task effectiveness

We hypothesize further that the moods leaders experience also have an impact on the leaders' task effectiveness. For this study, leader task effectiveness is defined as the extent to which the leader successfully directs followers towards a desired goal (House, 1971). In this respect, moods have been found to influence many aspects of cognitive performance. Isen, Daubman, and Nowicki (1987) for instance, found that positive mood facilitates creativity, enabling individuals to solve problems requiring ingenuity or innovation. Isen and her associates found relatedly that elation-related emotions promote cognitive flexibility, enabling individuals to engage in creative problem-solving. Similarly, Staw, Sutton, and Pelled (1994) demonstrated that positive mood facilitated clearer individual thinking through the prioritizing of one's attention. Vosburg (1998) found likewise that positive moods facilitate task performance, while negative moods inhibit individual-level cognitive performance. Barsade's (2002) study also illustrates that teams experiencing more positive mood also experience less conflict, concurring with Grawitch, Muntz, and Kramer's (2003) suggestions that positive mood allows cognitive resources to be devoted towards achieving substantive goals more easily (as opposed to being directed towards resolving relational conflicts within the group). This result led Grawitch and his coauthors to conclude that positive mood increases the cognitive efficiency with which information is processed, thereby allowing individuals to avoid extraneous information while still maintaining decision-making quality.

The foregoing studies essentially broadly state that negative mood impairs cognitive efficiency, leading to lower-quality leadership outcomes. Heath and Staudenmayer (2000), offer a plausible explanation as to how this might occur. They suggest that negative emotional processes lead to co-ordination neglect as cognitive resources are redirected towards resolving relational conflicts within the group rather than focusing on meeting the group's goals. This idea was subsequently supported in empirical research by Sy and colleagues (2005), who found that negative mood led to coordination neglect, whereby teams led by a negative-mood leader were less coordinated than teams led by a positive-mood leader. Supporting Heath and Staudenmayer, the net effect of this neglect was the lower overall team effectiveness.

The impact of moods on task leadership may also depend on the nature of the task itself (see Weiss, Ashkanasy, & Beal, 2005). In particular, positive moods should facilitate the achievement of directive leadership tasks (Wagner & Illes, 2008). In this respect, our two experimental studies are consistent with previous research in terms of utilizing leadership tasks that require both leaders and followers to work together towards meeting a common team objective (see Ballinger, Schoorman, & Lehman, 2009; Sy et al., 2005). In view of this, and because leadership is a cognitively-demanding responsibility that involves decision-making under complex social contexts (Mumford, Zaccaro, Harding, Jacobs, & Fleishman, 2000) and can be influenced by affective processes (Gooty et al., 2010), we propose that positive mood should facilitate leader task effectiveness. By the same token, the experience of negative mood should inhibit the leader's task effectiveness:

Hypothesis 2. There is a positive (negative) relationship between ratings of the leader's positive (negative) mood state with leader task effectiveness.

2.1.3. Mediating effect of leader's mood

Building on studies illustrating the transfer of mood and its influence on cognitive performance (Isen et al., 1987; Staw et al., 1994; Sy et al., 2005), we expect that followers' mood will also influence leader mood and subsequently, their performance on a task. Based on Dasborough et al. (2009), we also propose that the impact of followers' mood on leader performance is mediated by the leader's own mood. We suggest that followers first influence leaders' own experience of mood, and as a result, leaders will experience a mood state similar to that expressed by their followers. This suggested mediation relationship is also consistent with the possibility that emotional contagion processes may explain how leaders are affected by their followers' mood (Hatfield et al., 1994). Consequently, this change in the leader's mood state is expected to influence their cognitive performance. From a theoretical perspective, our hypothesized mediation effect is also consistent with emotional contagion theory. This is reflected in our hypothesizing that leaders are affected by their followers' mood (Hypothesis 1), which in turn impacts their own mood, consequently affecting their performance (Hypothesis 2). The upward contagion effect hence suggests the presence of a mediating effect of the leader's mood. Therefore:

Hypothesis 3. Leader mood mediates the effect of the follower displayed mood on ratings of leader task effectiveness.

2.2. Method

2.2.1. Sample

Our study was conducted as a class exercise in organizational behavior and leadership courses taught in a large Australian university. First, we undertook a pilot study to evaluate the experimental design and to assess the reliabilities of the measures to

be used in the study. The pilot study was conducted in a sophomore undergraduate leadership course at the same university and consisted of 89 participants, forming 15 activity groups in total. Of the 15 leaders in the activity, five were male and ten were female. The assignment of roles for this study was random. Participants had an average age of 21 years. All scales used in the pilot study were shown to exhibit acceptable reliabilities ($\alpha \geq 0.70$; Nunnally, 1978). Additionally, the experimental design was found to be appropriate for testing our central hypothesis that followers' mood can affect leaders' subjective experience of mood and impact their performance on a task. The pilot study measures and findings were all found to be psychometrically sound in the actual study. Further, results from the pilot study were encouraging and supportive of the hypotheses. Aggregated bivariate correlations indicated that leaders interacting with positive-mood followers were found to experience more positive mood than leaders interacting with negative-mood followers. When interacting with positive-mood followers, leaders were also found to display increased task effectiveness relative to leaders supervising negative-mood followers. Further, we found initial evidence that leader mood mediates the relationship between followers' mood and the leader task effectiveness. This mediation effect, however, was found for leader positive mood only, and was possibly due to the small sample size used for the pilot study ($N = 15$). Most importantly, we found no differences in the results that were attributable to differences in leader demographics. As such, data from the pilot study was subsumed into the overall study.

For the main study, two hundred eighty-eight undergraduates aged 17–34 were randomly selected from undergraduate organizational behavior courses at the same Australian university forming forty-eight groups for a leadership activity. As with the pilot study sample, assignment of roles was random, and participants took part in the study as part of a class exercise. Groups consisted of five to six male and female participants who were randomly allocated roles of leaders, followers, and observers. The resulting 48 group leaders consisted of 25 males and 23 females, averaging 20 years of age. Of the 288 participants, 48 assumed leader roles, 96 were designated as followers and 146 participants assumed observer roles.

2.2.2. Procedure

At the start of the experiment, facilitators randomly assigned a role to all participants. The activity was construed as a 'leadership exercise', where teams of leaders and followers were required to work together to assemble a small, yet surprisingly complex Lego® model car consisting of 40 pieces. Each role had different responsibilities and was thus briefed separately by two specially trained facilitators.

Before the exercise began, followers in the treatment mood groups were told to express either positive or negative mood when interacting with their leader. Those in the neutral group were told not to portray behavior that may be misconstrued as being indicative of a positive or negative mood, but instead were simply told to act normally when interacting with their leader. Followers who were told to display a positive mood were instructed to portray verbal and non-verbal cues indicative of positive mood. These instructions included asking the confederates "to smile, to respond enthusiastically to the leader, and to display open body language." Conversely, followers who were acting in a negative mood were instructed to portray behavior that included "avoiding eye contact with the leader, not smiling and exhibiting closed or defensive body language."

The manipulations of followers' expressions of mood were based on similar instructions given to confederates by Barsade (2002). Our rationale for manipulating followers' mood, as opposed to their emotions, is based on the rationale that moods will not overtly disrupt or interfere with leader–follower interactions. In the briefing, we further stressed the importance of ensuring that they portrayed the moods authentically and cautioned against disclosing the manipulation of the study until after the activity. Our selection of the range of negative moods is based on published research designs (Barsade, 2002; Sy et al., 2005), and we opted for negative moods that would not be perceived as being overly aggressive or rude. Our manipulation of positive and negative moods is also consistent with Shaver, Schwartz, Kirson, and O'Connor (1987) 'classic' work on emotion prototypes, whereby we emphasized contentment as a representative of joy-related emotion, and disinterest as a mild expression of anger. Shaver et al. (1987) also classify these as low-intensity feeling states, reflective of disinterested, unresponsive behaviors that are subtle indicators of follower negative mood.

All followers (unknown to the leader) were also instructed on how to complete the model car during the briefing. This step was to ensure that they were able to complete the model car within the allotted 12-minute time limit, and to reduce a potential confound of follower model-building ability. Confederates were also told that they were required to follow the leader's building instructions under all circumstances (even if the leaders provided incorrect instructions). This helped ensure that only the mood of the followers would be an influence on leader mood and leader task effectiveness. A second facilitator briefed the leaders in a separate room on how to direct followers towards the complete and accurate construction of the model car. The leaders were told that they were the only ones who have access to the essential building instructions required for successful completion of the car; followers would thus need to rely on the leader to accomplish the task successfully. This design implies that only the leaders were privy to crucial information needed to complete the task, along with the legitimate power necessary to direct the task and instruct the followers. Leaders were given approximately 10 min to study the car-building instructions and were also provided suggestions on how to communicate building instructions to their followers. Leaders were told to refer to the Lego® pieces as grids (e.g., "the red four by six flat piece"). This step was to ensure that the leaders each had a standardized way of conveying their building instructions to their followers.

The leaders and observers (who are both blind to the experimental conditions) served as sources of the main dependent variables. The observers were therefore an objective source of leader and follower mood evaluation because they were uninvolved in the car-assembling exercise. Participants in all three roles (leaders, followers and observers), provided ratings for the key dependent variables in the study, allowing us to cross-validate ratings of leader mood and performance across multiple raters.

All participants were regrouped after their briefings and began the exercise. Teams were given 12 min to complete the model car. Followers constructed the model car while acting out their assigned mood. The leaders provided verbal instructions to the followers while observers completed their mood questionnaires assessing leader moods, follower moods and leader task effectiveness throughout the task. A facilitator kept track of time and reminded groups when they had two minutes remaining. Once groups finished the activity or ran out of time, they were instructed to stop. Each participant was then handed a questionnaire and asked to complete it. Leaders completed a short mood questionnaire, while followers completed the PANAS to assess leader mood along with the leader's task effectiveness. Like the followers, the observers also completed the leader mood and leader task effectiveness questionnaires.

Upon collection of the completed questionnaires, participants were then debriefed, thanked for their participation and asked not to disclose any information regarding the study to their colleagues. Leaders were also questioned on the believability of the confederates' (followers') acting at the end of the activity. As a result, one leader/group was excluded from the final sample. Another leader who asked his followers' help in completing his questionnaire was also excluded from the final sample, resulting in the final sample of 288 participants in 48 groups.

2.3. Measures

2.3.1. Leader demographics

Leaders' stated their age, in years, along with their gender at the end of their questionnaire. Leaders' gender was dummy-coded for further analyses.

2.3.2. Leader and follower mood

Leader and follower moods were evaluated via the Positive and Negative Affect Scale (PANAS: [Watson, Clark, & Tellegen, 1988](#)). This consists of 20 adjectives describing affective states and asks respondents to evaluate mood states on a 5-point Likert-type scale. The PANAS is a well-validated measure (coefficient alphas .86 and .87 respectively for positive affect and negative affect items, as reported by [Watson et al., 1988](#)) and has been used extensively by organizational researchers evaluating mood states (e.g., [Barsade, 2002](#); [Sy et al., 2005](#)). Followers used the PANAS to assess the mood of the leaders³ (F-LPA, F-LNA). The observers completed the same measures to assess the mood of the leader (O-LPA, O-LNA) and the followers (O-FPA, O-FNA). Leaders also completed the PANAS as a self-report of their own mood (L-PA, L-NA).

2.3.3. Alternative measure of followers' portrayed moods

Leaders provided scores of followers' portrayed moods via a set of new measures. The new 4-item scale consisted of items such as "team members displayed good mood during the task." A shorter, non-PANAS measure was used to reduce common method bias (between the leader's self-report of their own mood with their assessment of followers' mood), as well as serving as an alternative measure of followers' mood for the manipulation check.

2.3.4. Leader task effectiveness

A 6-item measure was completed by the followers (F-LTask) and the observers (O-LTask) to assess the leaders' task effectiveness during the assigned task. This measure consisted of short phrases regarding the leader's performance in relation to the car-building exercise. All items on the task effectiveness measure therefore assess the extent to which the leader directed the team accurately, providing correct and suitable instructions that facilitated correct assembly of the model car. The questionnaire includes evaluative statements such as "The leader directed the task competently" and "The leader displayed good capability in directing the task". We took care not to confound task effectiveness with task completion, and therefore worded all task effectiveness measures without using the word 'completion'. We considered the possibility that some leaders may have been deliberate, but accurate, while others were expedient, but provide incorrect building instructions to followers. We nonetheless noted whether the extent of task completion would impact ratings of leader task effectiveness (see measure of extent of task completion below).

The score of the leader's task effectiveness is based on all the items being averaged across the raters in each group. These items, while specific to the present study, were based on the seven items [Barsade \(2002\)](#) used in her study assessing task performance. A list of all task effectiveness items is provided in [Appendix A](#).

2.3.5. Followers' and observers' familiarity with the leader

We included this measure to control for the existing preconceptions and opinions of peers that may have existed amongst the undergraduate participants. The measures of familiarity also used a 5-point Likert scale, and comprised of three items: "I have interacted with the leader extensively before"; "I am familiar with the leader"; and "I know the leader well".

³ We abbreviate the ratings in reporting our results. The first letter of corresponds to the rater, whereby L = leader rating, F = follower rating and O = Observer rating. The second letter corresponds to the rating target using the same letter. PA and NA correspond to positive mood and negative mood respectively. Hence, O-LPA would refer to observers' ratings of leader positive mood. Similarly, L-FPA refers to leader's ratings of follower positive mood.

Table 1
Descriptive statistics (Study 1).

	M	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Leader gender	1.47	.50																
2. Leader age	20.00	2.65	.11															
3. Task completion	0.81	.39	-.03	-.43**														
4. L-Leader PA	3.13	.98	-.18	.01	.19	(.93)												
5. L-Leader NA	1.63	.71	-.01	-.21	-.10	-.35*	(.89)											
6. L-Follower mood	3.73	1.23	-.34*	-.03	.03	.68**	-.31*	(.94)										
7. F-Leader PA	2.91	.76	-.12	.00	.16	.61**	-.26	.49**	(.91)									
8. F-Leader NA	1.75	.56	.06	.03	-.01	-.33*	.05	-.33*	-.24	(.88)								
9. F-Familiarity with leader	1.85	.80	.12	.08	.21	.21	.02	.02	.23	.11	(.90)							
10. F-Leader task effectiveness	3.69	.83	-.18	.07	.23	.70**	-.39**	.44**	.66**	-.29	.15	(.91)						
11. O-Leader PA	3.17	.50	-.10	.21	-.02	.34*	-.20	.41**	.29*	-.18	.26	.29	(.90)					
12. O-Leader NA	1.51	.33	-.02	-.32*	-.13	-.13	.27	.03	-.16	-.10	-.19	-.31*	.03	(.83)				
13. O-Follower PA	2.74	.75	-.16	-.03	.10	.46**	-.29*	.57**	.36*	-.20	.17	.43**	.61**	.00	(.92)			
14. O-Follower NA	1.45	.27	-.04	-.25	.18	-.29*	.38**	-.39**	-.18	.11	-.20	-.43**	-.14	.54**	-.26	(.73)		
15. O-Leader task effectiveness	3.85	.66	-.34*	.27	.14	.55**	-.50**	.46**	.55**	-.12	.19	.70**	.49**	-.44**	.34*	-.35*	(.91)	
16. O-Familiarity with leader	1.96	.88	.35*	.17	-.08	-.12	.08	.00	-.17	-.04	.09	-.20	.16	.04	.19	-.21	-.13	(.94)

Notes.

N = 288 participants in 48 groups.

L = Leaders' ratings, F = Followers' ratings, O = Observers' ratings.

PA = Positive affect (mood), NA = Negative affect (mood).

* $p < .05$.

** $p < .01$.

2.3.6. Extent of task completion

We assigned a facilitator to take note of whether each group completed the task and later assessed whether this had a significant influence on the ratings and evaluations in this study.

2.4. Results

2.4.1. Descriptive statistics and measurement validity

Table 1 presents bivariate correlations, means, standard deviations and Cronbach's alphas (values denoted in bold in Table 1) relevant for Study 1.

2.4.1.1. Leader mood. From Table 1, it can be seen that all measures of leader mood exhibited good reliability. Convergence of ratings was also found for evaluations of leader positive mood. Specifically, L-PA correlated with both F-LPA and O-LPA. Additionally, there was significant agreement between O-LPA and F-LPA. The evaluations of leader negative mood, however, showed less inter-rater convergence. L-NA did not correlate significantly with either F-LNA or O-LNA. F-LNA did not also significantly correlate with O-LNA.

These correlations imply that the raters did not perceive leader negative mood as well as leader positive mood. Totterdell (2000) and Barsade (2002) suggest that this perception may occur because positive affect is more conspicuously expressed than negative mood. In addition, this effect may have also occurred in view of the use of untrained confederates and/or observers (see the Discussion section). For further analyses, we chose to rely on both leader self-reports of their own mood and observer ratings for the leader's task performance. In effect, the observers' ratings were used for assessing the independent variable (follower mood), while the dependent variables (leader's mood and task performance) were assessed by both the leaders and the observers.

We relied primarily on observer ratings for four reasons: (1) there were at least two or more observers per group assessing leader mood, (2) the observers rated the leader's mood across the entire activity period, (3) the observers were blind to the experimental treatment conditions and (4) intra-class correlations (ICCs) between multiple observer ratings were found to be high (see the Intra-rater reliability for observers' ratings section).

2.4.1.2. Follower mood and manipulation check. One-way ANOVA showed that the followers instructed to portray negative moods were perceived by observers as displaying less positive mood ($M = 2.16$; $S.D. = .54$) than followers in the neutral or positive-mood conditions. The neutral-mood followers were perceived to be in a moderate mood state ($M = 2.96$; $S.D. = .70$), while the followers portraying behavioral cues indicative of positive mood were also perceived by observers as experiencing more positive mood ($M = 3.30$; $S.D. = .45$), $F(2,46) = 18.88$, $p < .01$. A follow-up one-way ANOVA however shows that the observers' ratings of follower positive mood was not significantly different from their ratings of followers instructed to portray neutral mood, $F(1,27) = 2.455$, $p = .13$.

A manipulation check was also conducted using the leader's alternative, 4-item measure of followers' portrayed mood. A significant difference was found for leaders' ratings of follower mood across the three mood treatment conditions $F(2,46) = 11.70$, $p < .01$. The results of a post-hoc comparison of means using the Bonferroni test show that there is a significant difference between leaders' ratings of negative mood ($M = 2.91$; $S.D. = 1.26$) with their ratings of follower positive mood ($M = 4.41$; $S.D. = .70$). However, there was no significant difference between leaders' ratings of follower positive mood and ratings of followers portraying neutral mood in the control condition ($M = 4.32$; $S.D. = .79$). This result suggests that leaders could not differentiate between followers' expressions of positive and neutral moods. This outcome may be attributable to the nature of our manipulation (see the Discussion section), and the leaders' focus on the task at hand, preventing them from making a more accurate assessment of the differences between follower positive and neutral moods. Further, the use of the impromptu confederates may also be part of the reason as to why both the leaders and observers were not sufficiently able to discern the differences between follower positive and neutral moods. In this regard, perhaps positive moods were also perceived by the leaders and observers as being similar to the absence of negative mood. We relied more heavily on the observers' ratings in the subsequent analyses, on the basis of multiple raters and their continuous assessment throughout the activity.

2.4.1.3. Leader task effectiveness. Reliability for this scale was .91. Results in Table 1 also indicate that there was strong convergence between F-LTask and O-LTask.

2.4.1.4. Intra-rater reliability for observers' ratings. We assessed the level of concordance between the observers' ratings for all 48 groups in this study using intraclass coefficients (ICC) to justify aggregation of the observers' ratings. The ICC(k) assesses the extent to which significant differences exist between mean group ratings (Bliese, 1998; McGraw & Wong, 1996) for observer's assessment of leader mood, followers' portrayed mood and leader task performance. All observer-assessed variables were found to be of high consistency ($ICC \geq 0.74$) and are all statistically significant across groups at $p < .01$. ICC values for observer-rated variables were .88 for O-FPA, .78 for O-FNA, and .74 for O-LTask ($p < .01$).

2.4.2. Control variables

Leader's age and gender were included as control variables on the basis of evidence that these variables may affect individuals' susceptibility to being influenced by affect (Doherty, 1997; Doherty, Orimoto, Singelis, Hatfield, & Hebb, 1995). Table 1 shows that the observers' assessment of leader negative mood was related to the leader's age and gender. Observers also rated male leaders

as being more effective on the leadership activity ($M = 4.08$, $S.D. = .67$) than female leaders ($M = 3.62$, $S.D. = .60$), $F(1,46) = 6.29$, $p = .02$. We hence controlled for these demographic factors in all subsequent hypothesis tests.

2.4.2.1. Task completion. Thirty-nine groups (81.25%) completed the model car within the allotted 12 min for the activity. Extent of task completion was dummy-coded, and the one-way ANOVA analyses reveal that observers' assessment of leader negative mood did not differ significantly depending on whether groups completed the task ($M = 1.49$, $S.D. = .48$) or otherwise ($M = 1.61$, $S.D. = .51$), $F(1,46) = 0.94$, $p = .33$. ANOVA analyses also indicate that observers' assessment of leader task effectiveness depending on whether they completed the task ($M = 3.87$, $S.D. = .68$) or otherwise ($M = 3.66$, $S.D. = 0.58$) was not significantly different from one another $F(1,46) = 0.73$ $p = .40$. All groups were included in the final sample, regardless of whether they completed the model or not.

2.4.2.2. Follower and observer familiarity with the leader. Both follower and observer familiarity with the leader were not significantly correlated with their evaluations of leader effectiveness, $r = .15$, *n.s.* and $r = -.13$, *n.s.* respectively, and hence did not bias their ratings of the leader's mood or task effectiveness.

2.4.3. Test of Hypothesis 1: follower mood effects on leader mood

Results of hypothesis tests are given in Table 2. From the table, it can be seen that, controlling for leader age and gender, L-PA was related to O-FPA. Similarly, O-LPA was associated with O-FPA. Leaders in positive-mood groups hence reported feeling more positive mood, which supports Hypothesis 1 for positive affect.

Conversely, and as can be seen in the lower panel of Table 2, leaders interacting with followers displaying negative moods experienced more negative mood, as evidenced by a positive relationship between L-NA and O-FNA. Leaders also rated their own mood less positively when interacting with negative-mood followers. We however, acknowledge that these findings should be viewed with some caution because the correlations between L-NA with both F-LNA and O-LNA are both non-significant.

2.4.4. Test of Hypothesis 2: leader mood effects on leader task performance

Results of testing Hypothesis 2 are given in Table 3. We found that L-PA was related to O-LTask. Conversely, when leaders reported themselves to be in a negative mood, observers also perceived the leaders to be less effective. Moreover, from the right-columns of Table 3 it can be seen that, as expected, O-LPA also related to O-LTask. Likewise, O-LNA had an inverse relationship with O-LTask.

These results indicate that leaders were perceived to be more effective at directing the task when they were in a positive, rather than a negative mood. Conversely, we found that negative mood reduced leader task effectiveness. Hence, leaders were seen to have performed more effectively on the task if they were experiencing positive mood than when they were experiencing negative-mood. These findings, similar to what we found for Hypothesis 1, provide support for Hypothesis 2 for both positive and negative moods.

2.4.5. Test of Hypotheses 3: mediating effect of leader mood

We tested Hypothesis 3 using Baron and Kenny's (1986) four-step method. We justify this approach based on LeBreton, Wu, and Bing's (2009) recommendations that simple, conventional mediation models with well-established a priori theory are best tested using the Baron and Kenny model in conjunction with the Sobel (1986) test (see also Mathieu & Taylor, 2006; Wood, Goodman, Beckmann, & Cook, 2008).

As we report above, and as required in Steps 1 and 2 of the method, follower positive mood was found to be associated with both leader positive mood and leader task performance (see Table 1). We tested Steps 3 and 4 using stepwise regression (Table 4). The variables entered at each step were age and gender (Model 1), follower mood (Model 2), and leader mood (Model 3). Results are presented in Table 4.

From Table 4, it can be seen that, controlling for follower positive mood and leader demographics, leader positive mood was related to observer ratings of their task performance, as required in Step 3. In Step 4, full mediation is indicated if the effect of follower positive mood display on leader task effectiveness becomes non-significant when the leader's positive mood is included in the regression model and the Sobel test statistic for the reduction in the IV–DV relationship is significant. As can be seen in Table 4 (Model 3) follower mood was no longer significantly related to leader performance when leader mood was included. Moreover, the Sobel (1986) statistic was $z = 2.56$, $p < .05$, suggesting that the leader positive mood fully and significantly mediated the relationship between the followers' portrayed positive mood and leader task effectiveness.

We also calculated the confidence intervals (CI) for the indirect effects found in this study. We acknowledge that the Sobel test assumes normality of sample distribution and is more appropriate for large sample sizes. As such, we conducted a Monte Carlo simulation to assess the confidence intervals for our indirect effects and to strengthen claims of our mediation effects found in Study 1 by using an online confidence interval calculator by Selig and Preacher (2008). Results from this calculator, with the CI set at 95% and with a bootstrap of 20,000 samples revealed a lower limit of 0.123 and an upper limit of 0.471 (95% CI [0.123, 0.471]). Since the CI values fall outside of zero, it can be concluded that there is a significant mediation effect, such that leader positive mood significantly mediated the relationship between follower positive mood and leader task effectiveness.

We conducted similar analyses to test for the conditions necessary to imply mediation for leader's negative mood. As can also be seen in Table 4, leader negative mood did not significantly predict leader task performance. Hypothesis 3 was therefore not supported for leader negative mood.

2.5. Discussion

The results of Study 1 indicate that, controlling for gender and age differences, leaders report experiencing more positive mood when interacting with followers who are displaying positive mood, and experience more negative mood when directing followers displaying negative mood. These relationships provide initial support for the effect of followers' affective displays on leader mood, both displayed and felt. Additionally, we found that leader positive mood was positively associated with observer ratings of the leader's task effectiveness, consistent with Barsade's (2002) and Isen and colleagues' (1987) findings on the beneficial influence of positive mood on cognitive performance. We also found partial support for Hypothesis 3, in that leader mood mediated the effect of follower affective displays on leader performance, although only for positive mood. No significant results were found for the hypothesized mediation effect of leader's negative mood.

We offer two explanations as to why we failed to find mediation in the instance of negative mood. First, this outcome may have resulted from our experimental manipulation. Despite the significant differences between the treatment groups, the impromptu confederate followers may not have portrayed negative moods as strongly as required for leaders to be influenced by negative mood. Our manipulation of negative mood may have also been perceived by some of the raters as being indicative of disinterest, rather than overt negative mood per se. As such, future studies may consider more overt, explicit displays of negative mood to strengthen the manipulation of followers' negative mood. Second, other factors may influence the impact of followers' negative mood on leader's negative mood. Individual differences that influence susceptibility to negative mood that were not measured in this study may more clearly explain the mechanisms involved in leader's receptivity towards followers' negative mood (Doherty, 1997; Ilies, Wagner, & Morgeson, 2007). Consequently, we set out to address these issues in a follow-up study.

3. Study 2

As we noted earlier, to provide more convincing evidence for followers' ability to influence leaders via negative mood, we replicated and extended upon our first experimental study. First, we improved the experimental design by addressing two concerns: (1) experimental manipulation strength and (2) observer validity and reliability. We did this by conducting training sessions for both the followers and the observers. Second, we considered how individual-level differences in leader neuroticism moderated the extent to which leaders were affected by followers' negative mood.

3.1. Hypotheses

In this study, we tested four hypotheses. Hypotheses 1 to 3 were the same as those we tested in Study 1, in that followers' mood can impact leader mood and task effectiveness via emotional contagion. In Hypothesis 4, we tested the idea that leader neuroticism may be a key individual difference impacting a leader's susceptibility to negative affect. In the following section, we therefore review literature on leadership trait theory with a view to develop hypotheses related to trait influences on leader susceptibility to follower affect.

Leadership trait theory is built on the premise that inherent individual differences impact a leader's effectiveness (Hogan, Curphy, & Hogan, 1994). Empirical evidence for the relevance of traits as antecedents to effective leadership outcomes can be seen

Table 2
Stepwise regression for effect of follower mood on leader mood ratings (Study 1) (Hypothesis 1).

		Leader self-report of mood		Observer ratings of leader mood	
		Model 1	Model 2	Model 1	Model 2
<i>DV = Leader positive mood (O-LPA)</i>					
Gender	β_1	-.18	-.09	-.14	-.02
Age	β_2	.03	.03	.23	.23
Follower positive mood	β_3		.52**		.62**
	R ²	.03	.29**	.06	.43
	Adj. R ²	-.01	.24	.02	.39
	ΔR^2	-	.26**	-	.37**
<i>DV = Leader negative mood (O-LNA)</i>					
Gender	β_1	.02	.02	.30	.03
Age	β_2	-.21	-.11	-.32*	-.18
Follower negative mood	β_3	.38*	.53**		
	R ²	.04	.18*	.10	.36**
	Adj. R ²	.00	.12	.06	.32
	ΔR^2	-	.12*	-	.26**

Notes.

N = 48.

df (Model 1) = 2,44; df (Model 2) = 3,43.

Results are based on observers' ratings of follower mood (O-FPA and O-FNA).

* $p < .05$.

** $p < .01$.

in Judge, Bono, Ilies, and Gerhardt's (2002) meta-review of personality traits and its relationship with leadership outcomes. These authors found that four of the Big Five (extraversion, neuroticism, openness to experience, conscientiousness) were moderately correlated with leadership outcomes at $r = .24$ or higher. Recent studies of personality and leadership outcomes (Bauer, Erdogan, Liden, & Wayne, 2006; Judge & Bono, 2000; Ng, Ang, & Chan, 2008; Riggio, Riggio, Salinas, & Cole, 2003) provide further evidence that trait-based perspectives remain a worthwhile and relevant approach to understanding antecedents to leader behaviors. In order to ascertain whether such traits moderate a leader's susceptibility to followers' negative mood, we construct a hypothesis based on the impact of neuroticism and susceptibility to negative affect. We review evidence on this particular trait and consider how it may lead leaders to be more susceptible to their followers' negative mood.

Neuroticism, or emotional instability, is a tendency to experience negative affect and consequently to engage in negative and unproductive behaviors (Zelenski & Larsen, 1999). Moreover, Bolger and Schilling (1991) and Watson and Clark (1984) found that neurotic individuals tend to be more responsive and reactive to stressors. In fact, Watson and Clark (1984) argued that neuroticism is essentially an individual's reactivity towards negative affect. In the context of our study, therefore, leaders who are highly neurotic may be more susceptible to the negative mood portrayed by their followers and hence be more strongly affected by their followers' negative mood in comparison with low neurotic leaders. We also argue that this susceptibility to negative mood will consequently impact their task effectiveness. This forms the basis for our fourth hypothesis, which implies that both moderating and mediating processes collectively explain how follower negative mood influences leader mood and task effectiveness. Based on preceding research on individual traits and susceptibility to affect (Bolger & Schilling, 1991; Watson & Clark, 1984; Zelenski & Larsen, 1999), we first hypothesize that highly neurotic leaders will be more susceptible to followers' negative mood, implying a moderating influence of leader neuroticism in the relationship between follower negative mood and leader negative mood. In addition to this, we also suggest that the leaders' negative mood will then mediate the relationship between followers' negative mood and leader task performance. Taken together, this suggests a mediated-moderation effect, as described in our fourth hypothesis:

Hypothesis 4. High neurotic leaders, relative to low neurotic leaders, are more receptive of followers' negative mood, and exhibit lowered task effectiveness when leading negative-mood followers.

3.2. Method

3.2.1. Sample

Twenty-eight (28) undergraduate organizational behavior students aged 18–29 participated in the role of group leaders for this experiment. This sample consisted of 12 male and 16 female leaders with an average age of 21 years.

3.2.2. Procedure

We employed the same experimental design as Study 1, but with an important modification in that we employed trained confederate followers and observers in place of randomly selected student participants. Specifically, we asked drama students to assume the roles of confederate followers because they would likely have some degree of practical experience in acting and

Table 3

Stepwise regression for effect of leader mood on leader task effectiveness ratings (Study 1) (Hypothesis 2).

		Leader self-report of mood		Observer ratings of leader mood	
		Model 1	Model 2	Model 1	Model 2
<i>DV = Leader task effectiveness (O-LTask)</i>					
Gender	β_1	-.38**	-.29*	-.38**	-.32*
Age	β_2	.31*	.30*	.31*	.21
Leader positive mood	β_3	.49**	.45**		
	R ²	.21**	.44**	.21**	.40**
	Adj. R ²	.18	.41	.18	.36
	ΔR^2	–	.23**	–	.19**
<i>DV = Leader task effectiveness (O-LTask)</i>					
Gender	β_1	-.38**	-.37**	-.38**	.31*
Age	β_2	.31*	.21		
Leader negative mood	β_3		-.47**		-.39**
	R ²	.21**	.43**	.21	.35**
	Adj. R ²	.18	.39	.18	.30
	ΔR^2	–	.22**	–	.14*

Notes.

N = 48.

df (Model 1) = 2,44; df (Model 2) = 3,43.

Results are based on observers' ratings of follower mood (O-FPA and O-FNA).

* $p < .05$.

** $p < .01$.

would be more adept at portraying the mood states required for the study. Thus, study participants were instructed that they were to take a leadership role, and were under the impression that followers and observers were all selected randomly from their own student cohort, similar to Study 1. Participants were required to instruct their followers verbally in the construction of a Lego® model car, while the observers provided an objective assessment of the leader's mood and task effectiveness. Study 2 thus replicated Study 1 in all regards, but strengthened the manipulation of followers' expressed mood via training and use of drama students as the confederate followers. Observers were also trained for the purposes of this study, hence improving the accuracy and reliability of their assessments of the mood states in the study. All measures used in the first study were also used in the current experiment, although the "familiarity with leader" items were removed because the drama students were not acquainted with the organizational behavior students prior to the study. Ten leaders were assigned to lead positive-mood followers while twelve were allocated to followers who displayed negative mood. Six leaders led followers who displayed neutral mood in this study.

3.2.3. Measures

In addition to the measures used in Study 1, leaders also completed a measure of their neuroticism scores via 6 items from John and Srivastava's (1999) Big Five Inventory (BFI; reported neuroticism alpha = .84).

3.2.4. Training

3.2.4.1. Confederate followers. Six undergraduate drama students were recruited and trained to play the role of the confederate followers in this study. In the training session, we handed out an instruction booklet and asked the followers to mimic the expressions portrayed by the person depicted in their booklet. The training was based on Ekman's (2003) micro-expressions training tool and used pictures of portrayed emotional expressions from the Research and Development at the Institute of Animation (2007) website. The Facial Expression Repertoire is a pictorial catalog consisting of a wide range of facial expressions based on psychological research. Ten pictures with a model portraying positive mood and ten pictures where the model portrayed negative mood were used. The (confederate) followers were then told to look closely at the pictures and to mimic the expression being portrayed by the model naturally and accurately. We also instructed them not to disclose their role to the study participants (observers and leaders).

In the second part of the training, we asked the (confederate) followers to practice assembling the Lego® race car. We grouped the followers into pairs and instructed them to complete the race car at least three times per group. Followers were again told to follow the leader's instructions and not provide any indication that they already knew beforehand how to assemble the race car.

3.2.4.2. Observers. An additional six drama undergraduates were recruited to act as observers for this second study. We conducted a training session for the observers three weeks prior to the experimental study. We handed out an instruction booklet similar to that for the confederate followers and used the same ten positive and ten negative-affect expression pictures from the Facial Expression Repertoire. Observers were then instructed to observe the pictures carefully, and to classify the person in the pictures as either portraying "positive mood" or "negative mood" over two sections in their training booklet. We then checked the observers' responses to ensure that they had correctly classified each of the pictures in their training booklet. The experimenter met with the (confederate) followers and observers for a final briefing and clarified their roles for the experiment. In the absence

Table 4
Stepwise regression for effect of leader and follower mood on leader task effectiveness ratings (Hypothesis 3).

		Model 1	Model 2	Model 3
Gender	β_1	-.38**	-.31*	-.30*
Age	β_2	.31*	.31*	.22
Follower positive mood	β_3		.36**	.14
Leader positive mood	β_4			.36*
	R ²	.21**	.38**	.41**
	Adj. R ²	.18	.29	.36
	ΔR^2		.17**	.03*
Gender	β_1	-.38**	-.38**	-.37**
Age	β_2	.31*	.22	.18
Follower negative mood	β_3		-.32*	.16
Leader negative mood	β_4			-.30
	R ²	.21**	.31**	.36**
	Adj. R ²	.18	.26	.30
	ΔR^2		.10*	.05*

Notes.

N = 48.

df (Model 1) = 2,44; df (Model 2) = 3,43.

Results are based on observers' ratings of follower (O-FPA/O-FNA) and leader (O-LNA/O-LPA) moods.

* $p < .05$.

** $p < .01$.

of the observers, the experimenter then reminded the followers of their roles and clarified any questions that they had for their roles.

3.3. Results

3.3.1. Descriptive statistics and measurement validity

Table 5 presents the bivariate correlations, means, standard deviations and Cronbach's alphas (values denoted in bold in Table 5) relevant to Study 2.

3.3.1.1. *Leader personality.* As can be seen in Table 5, the neuroticism measures were found to have good reliability.

3.3.1.2. *Leader mood.* Leader mood was evaluated by all three roles during and throughout the study, and the ratings demonstrated good reliability across different raters at .83 and higher. O-LNA also showed similar coefficient alpha to that found in Study 1. All other PANAS measures were reliable at .91 and higher. Leaders who self-reported positive mood were also evaluated by both followers and observers to be exhibiting positive mood. As can be seen in Table 5, L-PA and L-NA were strongly correlated with follower (F-LPA, F-LNA) and observer ratings (O-LPA, O-LNA) of the same variables.

3.3.1.3. *Assessment of followers' mood and manipulation check.* One-way ANOVA showed that the followers instructed to portray negative moods were perceived by observers as displaying lower levels of positive mood ($M = 2.00$; $S.D. = .52$), the neutral-mood followers were perceived to be in a comparatively moderate mood state ($M = 3.1$; $S.D. = .36$), while followers portraying behavioral cues indicative of positive mood were also perceived by observers as experiencing more positive mood ($M = 3.74$; $S.D. = .43$), $F(2,26) = 40.11$, $p < .01$. In contrast with Study 1, the one-way ANOVA analyses also show that there is a statistically significant difference between observers' assessments of follower positive and neutral moods, $F(1,15) = 9.30$, $p < .01$.

A significant difference was found for leaders' ratings of follower mood across the three mood treatment conditions $F(2,26) = 26.74$, $p < .01$. The results of a post-hoc comparison of means using the Bonferroni test shows that there is a significant difference between leaders' ratings of follower negative mood ($M = 2.10$; $S.D. = 1.10$) with their ratings of follower positive mood ($M = 4.78$; $S.D. = .48$). However, like Study 1, there was no significant difference in between leaders' ratings of follower positive mood with ratings of followers portraying neutral mood in the control condition ($M = 4.46$; $S.D. = 1.10$). As with Study 1, we opted to use the observers' ratings for subsequent analyses.

3.3.1.4. *Intra-rater reliability for observers' ratings.* ICC(k) values for observer-assessed variables in Study 2 were found to be $\geq .72$ and were significant across all groups at $p < .01$.

3.3.2. Control variables

3.3.2.1. *Age and gender.* Unlike in Study 1, leader gender did not affect observers' ratings of leader task effectiveness. Male leaders were not rated as being significantly more effective on the task ($M = 3.55$, $S.D. = .98$) than female leaders ($M = 3.04$, $S.D. = 1.16$) $F(1,27) = 1.49$, $p = .23$. Leaders' age was also not significantly correlated with either followers' or observers' ratings of their task effectiveness. Both these demographic variables were therefore not included in subsequent regression analyses (i.e., to prevent spurious suppression effects in the regression analyses, see Becker, 2005).

3.3.2.2. *Task completion.* In this study, only 15 (54%) of the groups completed the car-assembling leadership exercise. Observers' assessment of leader negative mood was significantly affected by whether leaders completed the task or otherwise. Leaders who managed to complete the task within the allotted time were rated as displaying less negative mood cues ($M = 1.79$, $S.D. = .85$), while higher levels of negative mood were perceived amongst leaders who failed to complete the car-building activity ($M = 2.54$, $S.D. = .75$), $F(1,27) = 6.01$, $p = .02$. ANOVA analyses also reveal a significant difference between observers' assessments of leader task effectiveness depending on completion ($M = 3.68$, $S.D. = 1.03$) or otherwise ($M = 2.53$, $S.D. = 1.13$) $F(1,27) = 7.94$, $p = .01$. This is in contrast with Study 1, where we did not find any significant difference between groups that managed to complete the car-building activity with those that successfully completed the task within the time limit. We therefore controlled for task completion in all subsequent hypothesis tests for Study 2.

3.3.3. Test of Hypothesis 1: followers' mood effects on leader's mood

Results of the Hypothesis 1 tests are illustrated in Table 6, which shows that, consistent with findings from Study 1, O-LPA was related to O-FPA. This relationship held true even when L-PA was used instead of O-LPA.

From the results shown in Table 6 (lower panel), support for Hypothesis 1 for negative affect was forthcoming only for O-LNA. O-FNA was found to be related with O-LNA. No significant relationship was found when leader self-reports were used in place of observer ratings. L-NA was also not significantly associated with O-FNA.

3.3.4. Test of Hypothesis 2: follower mood effects on leader task effectiveness

Results of the Hypothesis 2 tests are illustrated in Table 7, where it can be seen that leader mood was related to O-LTask. L-PA was found to be associated with O-LTask. Conversely, when leaders reported themselves to be in a negative mood, the observers

Table 5
Descriptive statistics (Study 2).

	M	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Leader gender	.57	.50															
2. Leader age	21.10	2.50	.20														
3. Task completion	.54	.51	-.08	.09													
4. L-Neuroticism	2.72	.83	.15	.32	.05	(.85)											
5. L-Leader positive mood	3.23	.99	-.24	.18	.26	-.33	(.92)										
6. L-Leader negative mood	1.74	.83	.29	-.01	-.11	.23	-.40*	(.92)									
7. L-Follower positive mood	3.55	1.58	-.18	-.06	.33	-.29	.59**	-.30	(.97)								
8. F-Leader positive mood	3.07	.88	-.37	.03	.44*	-.30	.71**	-.65**	.80**	(.92)							
9. F-Leader negative mood	2.03	.79	.11	.05	-.43*	.14	-.49**	.55**	-.71**	-.74**	(.92)						
11. F-Leader task effectiveness	3.45	.97	-.21	.06	.21	-.20	.55**	-.61**	.59**	.75**	.64**	(.92)					
11. O-Leader positive mood	3.10	.75	-.29	-.05	.23	-.30	.68**	-.58**	.49**	.64**	-.41*	.57**	(.91)				
12. O-Leader negative mood	2.14	.88	.25	-.03	-.43*	.11	-.54**	.70**	-.59**	-.70**	.75**	-.68**	-.57**	(.93)			
13. O-Follower positive mood	2.86	.91	-.22	-.10	0.27	-.06	.50**	-.16	.80**	.63**	-.58**	.36	.48**	-.36	(.91)		
14. O-Follower negative mood	1.67	.52	.30	.19	-.14	.24	-.46**	.15	-.76**	-.55**	.59**	-.35	-.18	.54**	-.63**	(.77)	
15. O-Leader task effectiveness	3.26	1.09	-.23	-.14	.49**	-.14	.51**	-.58**	.53**	.61**	-.62**	.70**	.83**	-.72**	.54**	-.27	(.95)

Notes.

N = 28 participants in 28 groups.

L = Leaders' ratings, F = Followers' ratings, O = Observers' ratings.

PA = Positive affect (mood), NA = Negative affect (mood).

Gender: 1 = Male, 2 = Female.

Completion of task: 1 = Yes, 0 = No.

* $p < .05$.

** $p < .01$.

Table 6

Stepwise regression for effect of follower mood on leader mood ratings (Study 2) (Hypothesis 1).

		Leader self-report of mood		Observer ratings of leader mood	
		Model 1	Model 2	Model 1	Model 2
<i>DV = Leader positive mood</i>					
Completion	β_1	.26	.13	.23	.11
Follower positive mood	β_2	.46*	.45*		
	R ²	.07	.27*	.05	.24*
	Adj. R ²	.03	.21	.02	.18
	ΔR^2	–	.20*	–	.19*
<i>DV = Leader negative mood</i>					
Completion	β_1	–.11	–.09	–.43*	–.37*
Follower negative mood	β_2	.14	.49**		
	R ²	.01	.03	.19	.42**
	Adj. R ²	–.03	.05	.16	.38
	ΔR^2	–	.02	–	.23**

Notes.

N = 28.

df (Model 1) = 1,26; df (Model 2) = 2,25.

Results are based on observers' ratings of follower mood (O-FPA/O-FNA).

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

perceived the leaders to be less effective. O-LPA also related with O-LTask. Likewise, we found a relationship between O-LNA and O-LTask. These results indicate that the leaders were both self-perceived and other-perceived to be more effective at directing the task when the leaders displayed positive mood. Hypothesis 2 was thus supported for both positive and negative affect.

3.3.5. Test of Hypotheses 3 and 4: moderating effect of leader's neuroticism and mediating effect of leaders' mood

We followed guidelines suggested by Muller, Judd, and Yzerbyt (2005) and Edwards and Lambert (2007) to test the mediation and moderation effects simultaneously as proposed in Hypotheses 3 and 4. To do this, we used the Preacher, Rucker, and Hayes' (2007) SPSS macro MODMED. The mediated-moderation relationship proposed in this study occurs where the direct effect between the independent variable and the mediator is influenced by a moderator variable. Expressed in terms of the variables in this study, the leader's negative mood is expected to mediate the relationship between followers' mood and leader task effectiveness (Hypothesis 3). Subsequently, we also hypothesize that the leader's neuroticism will moderate the relationship between followers' negative mood and the leader's negative mood (Hypothesis 4). We used the MODMED macro to collectively test the moderating and mediating effects simultaneously, rather than independent of each other.

First, to test for the moderating effects of leader neuroticism, all variables of interest were first centered to avoid issues of multicollinearity (Cohen, Cohen, West, & Aiken, 2003; Jaccard & Turisi, 2003). Observers provided ratings of the followers' and the leader's mood while leaders provided ratings of their neuroticism. Results of the point estimate MODMED analysis used to test this hypothesis are provided in Tables 8 and 9.

Table 7

Stepwise regression for effect of leader mood on leader task effectiveness ratings (Study 2) (Hypothesis 2).

		Leader self-report of mood		Observer ratings of leader mood	
		Model 1	Model 2	Model 1	Model 2
Completion	β_1	.37	.25	.37	.19
Leader positive mood	β_2		.44*		.79**
	R ²	.13	.32**	.13	.72**
	Adj. R ²	.10	.26	.10	.70
	ΔR^2	–	.19*	–	.59**
Completion	β_1	.37	.30	.37	.06
Leader negative mood	β_2		–.55**		–.70**
	R ²	.13	.43**	.13	.52**
	Adj. R ²	.10	.38	.10	.49
	ΔR^2	–	.28**	–	.39**

Notes.

N = 28.

df (Model 1) = 1,26; df (Model 2) = 2,25.

Results are based on observers' ratings of follower mood (O-FPA/O-FNA).

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

Table 8

Mediator and dependent variable models for leader negative mood, neuroticism and task effectiveness (Hypothesis 3 and 4).

	B	SE	t	p > t
<i>Mediator variable model (DV = Leader negative mood; O-LNA)</i>				
Constant	0.09	0.13	0.00	.99
Follower negative mood	0.62	0.27	2.45	.02
Leader neuroticism	−0.14	0.16	0.13	.90
Interaction	0.45	0.27	1.94	.06
Completion	−0.82	0.27	−2.88	.01
<i>Dependent variable model (DV = Leader task effectiveness; O-LTask)</i>				
Constant	.02	.15	.31	.76
Leader negative mood	−.86	.24	−3.63	.01
Follower negative mood	.43	.36	1.22	.24
Leader neuroticism	−.05	.19	−.74	.47
Interaction	−.35	..34	−1.08	.29
Completion	.32	.36	.75	.46

Notes.

Results are based on observers' ratings of follower mood (O-FNA).

Results from these analyses illustrate that follower-expressed negative mood was not related to the leader's task performance, which would seem not to meet the criterion for Step 1 in the Baron and Kenny (1986) method. Kenny, Kashy, and Bolger (1998), however, suggest that this initial step is not necessary to establish mediation if Steps 2 and 3 are satisfied. We therefore proceeded to test whether the variables met the conditions suggested in Steps 2 and 3. The followers' portrayed negative mood was found to predict leader's negative mood. Controlling for followers' negative mood and the extent of task completion, we found a significant, inverse relationship between the leaders' mood and their task performance. The Sobel statistic for this hypothesized mediation effect, however, was not significant ($z = -1.61, n.s.$), implying that the leader's negative mood did not mediate the followers' negative mood–leader task performance relationship. Hypothesis 3 was not therefore supported in the case of leader negative mood. Support, however, was found for the mediating effect of leader positive mood using the same analysis. The Sobel statistic for this hypothesized mediation is significant ($z = 2.62, p < .01$) upon establishing Steps 2 and 3 in the Baron and Kenny (1986) steps. CI values for the indirect effects found in Study 2 were also calculated using Selig and Preacher's (2008) online calculator. Results from the Monte Carlo simulation with the CI set at 95% and a bootstrap of 20,000 samples showed a lower limit of 0.136 and an upper limit of 0.862 (95% CI [0.136, 0.862]). Consistent with Study 1, this shows that leader positive mood significantly mediated the relationship between follower positive mood and leader task effectiveness.

Results in Table 9 show that the interaction effect between leader neuroticism and follower portrayed negative mood was significant at moderate (mean-level) and high (one above standard deviation) levels of leader neuroticism. These results suggest that leader neuroticism had a detrimental effect on leader task effectiveness through the negative mood displayed by followers. This interaction effect is more pronounced at higher levels of leader neuroticism, suggesting that the highly neurotic leaders in our study were more likely to be influenced by followers' negative mood; and consequently they were seen to exhibit degraded performance on this cognitively demanding task.

An interaction plot depicting the interaction of leader neuroticism and followers' expressed negative mood as a predictor of leader task effectiveness is provided in Fig. 1. Only the moderate ($\beta = -.35, p < 0.05$) and high ($\beta = -.54, p < 0.05$) neuroticism slopes were significant. The slope of the relationship for low neurotic leaders was not significant ($\beta = .12, n.s.$). Hypothesis 4 was therefore supported.

3.4. Discussion

Results from Study 2 provide additional support for our core hypothesis, stemming from the Dasborough et al. (2009) model of reciprocal affect, that followers' affective displays impact leaders' mood and task effectiveness. As with Study 1, we found that the leaders who interacted with followers exhibiting positive-mood were more likely to experience and to display more positive mood themselves. Conversely, leaders who led teams displaying negative moods self-reported negative mood and were rated as

Table 9

Conditional indirect effect on leader task effectiveness at specific values of leader neuroticism (Hypothesis 3 and 4).

Leader neuroticism	Indirect effect (B)	SE	z	p > z
−.80 (−1 S.D.)	−.21	.37	−0.58	.56
.02 (Mean)	−.60	.30	−2.02	.04
.84 (+1 S.D.)	−.98	.39	−2.55	.01

Notes.

Results are based on observers' ratings of follower (O-FPA/O-FNA) and leader (O-LPA/O-LNA) moods.

exhibiting more negative mood by others. Leaders displaying behavioral cues indicative of positive mood were also rated as being more effective on the task than leaders who were assessed as being in a negative mood state.

We also found in this study that neuroticism predicted the leader's susceptibility to followers' negative mood. Leaders who were high in neuroticism in comparison with those low in neuroticism, were more susceptible to being influenced by followers' negative mood, lowering their task effectiveness when they interacted with negative-mood followers. The mediation effect was found only for leader positive mood, mediating the relationship between followers' portrayed positive mood and leader task effectiveness. As in Study 1, and despite the improved experimental design, the leader negative mood did not mediate the follower negative mood–leader task performance relationship.

4. Limitations

As with all research, our study is subject to limitations. In the first instance, we note that the experimental nature of our study may be seen to lack real-world generalizability. We chose this activity, however, because it resembles similar leadership and team-building activities used in contemporary research (see Ballinger et al., 2009; Sy et al., 2005). We also reiterate arguments by Mook (1983), Ilgen (1986) and Judd, Smith, and Kidder (1991) in support of laboratory research, and position our findings as contributors to scientific theory building. Further, Anderson, Lindsay, and Bushman (1999) and van Knippenberg and van Knippenberg (2005) report that conclusions drawn from experiments are comparable with those found within field studies of leadership. Gooty and colleagues (2010) also reiterate that experimental research allows for the understanding of the causal relationship between leadership processes and outcomes. Our choice of an experimental study was thus essential as a means for us to demonstrate that the followers' mood did in fact impact leader's mood and performance.

A second potential limitation in our research is that the activity we chose for this study may be perceived as male-oriented, since it involves a more directive form of leadership. This may be why male leaders were perceived by observers as being more effective in terms of task effectiveness in Study 1. As Koenig, Eagly, Mitchell, and Ristikari (2011) suggest, perceptions of leadership stereotypes are strongly dependent on the context within which the leader operates. The directive, task-focused leadership task situation in this study may have also influenced raters' perceptions of the leader's effectiveness. While we controlled for the effects of leader gender in the hypothesis tests, alternative experimental activities should be considered for future studies.

A third limitation with specific regard to our second experimental study is the comparatively smaller sample size, in relation to Study 1. This small sample size limits the ability of statistical analyses to detect the moderation effects hypothesized in this study – in particular, when the leader's ratings are used in place of the observers' scores. Further, power analysis reveals that the sample size falls below the generally-accepted .80 level of power at .75, given small effect sizes ($|d| < .2$, $p < .05$; Faul, Erdfelder, Buchner, & Lang, 2009; Cohen, 1988). The power analysis, however, shows that sufficient power is attained for medium effect

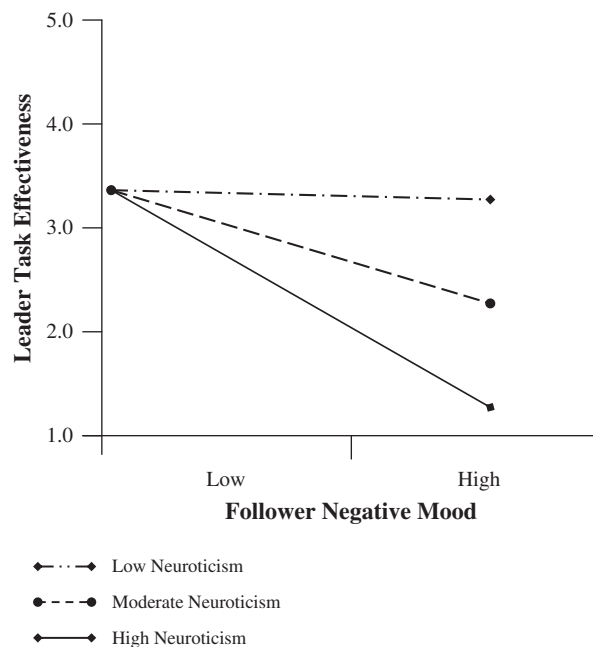


Fig. 1. Interaction of leader neuroticism and follower negative mood as a predictor of leader task effectiveness.⁴

⁴ The interaction effect is based on output depicted in Table 8. Both the moderate ($B = -.60$) and high levels ($B = -.98$) of leader neuroticism were found to significantly interact with follower negative mood in predicting leader task effectiveness ($p < .01$). The low neuroticism slope is non-significant.

sizes ($|d| < .5, p < .05$) at .95. We nonetheless acknowledge this limitation, but stress that in the context of experimental research, this issue does not detract from our findings since there is no error variance on the manipulated variable in the experiment. Further, we replicated findings across both Studies 1 and 2, providing consistent evidence that followers' mood can impact leader mood and performance. Our modest sample size is also comparable to that of previous research also examining mood effects within a group setting (see Barsade, 2002).

Common method variance (Podsakoff, MacKenzie, & Podsakoff, 2012) might be seen to constitute a further potential limitation. To overcome this concern, however, we used multiple ratings for the variables in the study. In particular, leader mood was evaluated by the leaders themselves (self-reports of their own mood), and by followers and observers as well. Concordance between the various raters, especially in terms of leader positive mood and task effectiveness, was also observed across the various participant roles in this study. Consistent with Podsakoff and colleagues' (2012) recommendations, we therefore used different sources in the measurement of the predictor and dependent variables. It is unlikely, however, that all common method bias was eliminated, and we acknowledge this limitation in the study, insofar as we relied mainly on the observers' ratings for our hypothesis tests.

A final limitation of our study is that we were unable to ascertain specifically the mechanism behind the mood transfer from followers to leaders in this study. The most plausible explanation for the mood transfer effect would be the presence of emotional contagion processes (Hatfield et al., 1994). Consistent with the theory of emotional contagion, it is possible that the leaders in the study subconsciously mimicked the facial and non-verbal expressions of emotion, and subsequently experienced the same mood state of that being expressed by their followers. In this regard, it may thus be possible that the leaders 'caught' the mood expressed by their followers and this tacit process subsequently affected their performance on the task. The design of our study, however, does not allow us to evidence emotional contagion effects conclusively since we were relying primarily on observers' assessment of the leaders' mood. Future studies might thus improve on this limitation and design experiments (e.g., by video recording emotional expressions) to allow for a stronger inference of emotional contagion effects from followers to leaders.

5. General discussion

Across both studies, we found evidence to support our core hypothesis: that leader moods can be influenced by followers' expressed moods; and that this outcome has implications for leader task performance (Dasborough et al., 2009). In particular, our findings imply that the transfer of affect may transcend formal hierarchical structures, and that individuals with less power may be able to influence those with relatively more influence via expressions of affect. In effect, we showed that affect-based processes may be a key mechanism by which followers influence leader affect and leadership outcomes – complementing early follower-centric models of leadership (Hollander, 1992; Lord & Hall, 1992; Lord et al., 1999; Meindl, 1995) and also the more recent, affect-focused theoretical models of reciprocal influence (Dasborough et al., 2009; Hareli & Rafaeli, 2008). The findings from this study hence contribute to such theoretical models by providing initial empirical evidence for the role of follower affect in impacting leader affect and leader task performance.

Further, although we are able only to infer that emotional contagion processes may have been operative, our results do appear to complement recent conceptual developments in emotional contagion research by providing evidence that emotional contagion might occur upwards as well as downwards (Dasborough et al., 2009). While our findings only show a one-way effect of followers' mood on leader mood, the results here complement previous studies demonstrating that leaders' mood impacts follower mood and group task performance (see Johnson, 2008, 2009; Sy et al., 2005). As such, our findings support the notion that leadership outcomes are understood better if, instead of focusing solely on leader-focused elements, researchers view the phenomenon as a more complex socio-emotional interplay between followers and leaders (Brower, Schoorman, & Tan, 2000; Uhl-Bien, 2006).

We also show that leader neuroticism can have an adverse impact on leader task performance through neurotic leaders' receptivity to followers' negative mood. Our findings support the idea that high neurotic leaders are likely to be more susceptible than their low-neurotic colleagues to follower displays of negative mood. We found that leaders high in neuroticism were more receptive of followers' negative mood displays, and that this impacted leaders' subsequent performance on a cognitively-demanding task. These findings are consistent with recent studies (see Ng et al., 2008) that have highlighted the impact of personality on leader effectiveness. Indeed, neuroticism has been shown to be negatively related with leader effectiveness in Judge and colleagues' (2002) meta-review. Our findings thus show that leader personality can also form certain boundary conditions that moderate the extent to which they are influenced by their followers' mood.

6. Practical implications

Our findings also suggest some practical considerations. First, leaders may be influenced by their followers' mood displays in the workplace and their performance affected by expressions of affect. The overall consistent associations between leader mood, follower mood and leader effectiveness across both studies suggest that a positive-mood team climate is conducive to both team and leadership outcomes. Knowing this, leaders need to be aware of the affective dynamics that exist within groups and consider how followers' mood may be an important contributor to both group-level affect and the quality of leader-follower interactions.

Second, our findings also suggest that emotional stability is beneficial for leaders when interacting with negative-mood followers, or in extreme circumstances, with followers who are hostile and uncooperative. While personality traits are strongly inherent within individuals, practitioners may consider the development of personal skills, such as emotional intelligence, in helping managers manage emotions in the workplace. Leaders should hence consider how their performance in the workplace may be partially dependent on how they manage the moods expressed by their followers, and perhaps consider ways (i.e., setting boundaries) in which to effectively manage both their followers', and their own affect.

7. Suggestions for future research

First, and as we noted earlier, we are unable to present empirical evidence of the occurrence of emotional contagion in our study. Thus, while contagion is the most plausible explanation for our findings, there is the possibility that other, more conscious processes could have been responsible for the effects we recorded. To resolve this, future researchers might consider using real-time video recording of both leaders and followers emotional expressions during the task.

Future researchers might also consider examining the impact of follower mood on a wider spectrum of leadership roles. Our studies focused broadly on leadership task performance, but further research can examine how followers' mood influences other facets of leadership performance. The effect of followers' mood on leader decision-making processes, for instance, might be a worthwhile research topic, as there is evidence that affective states do influence individual decision-making processes and strategies (Elsbach & Barr, 1999).

Additionally, further research can also examine other individual-level attributes, traits or demographics which may influence the impact of follower mood on leader mood and performance. Measuring leader emotional intelligence and empathy may also be worthwhile considerations for future research as these traits may moderate the extent to which leaders are affected by their followers' moods. Subsequent studies can also go one step further and examine potential cross-cultural differences moderating the extent of mood transfer in leader–follower relationships. In high-power distance cultures, for instance, large, formal hierarchical differences between managers and employees exist, thereby potentially limiting the extent to which followers can openly express affect towards their leader. In more egalitarian, low-power distance cultures, it may be possible that followers are given more leeway in openly expressing affect towards their leaders. Finally, future research can also consider leadership style and power on how it influences leader receptivity of follower mood. A strong, authoritative and autocratic leader who is also well-established in a group, for instance, may be less likely to be affected by their followers' mood.

Finally, we note that followers may vary in terms of their felt and expressed affect towards their leaders. Teams may consist of members having distinct feelings towards their leader and, consequently, behave differently towards them. In-group members, for example, may be more likely to express positive mood towards their leaders than those in the out-group on the basis of a higher quality relationship with the leader. While our study's findings are consistent with previous research on the impact of convergent mood on team outcomes (see Barsade, 2002; Totterdell, Wall, Diamond, Holman, & Epitropaki, 2004), additional research can focus on these individual-level mood differences and examine how they impact leader mood and performance. For example, what happens if leaders lead groups where different followers are expressing different affect towards the leader? Will followers' positive mood be subdued, or overridden by followers expressing negative mood (and vice-versa)? Further, to what extent are leaders affected by the mood of their followers if there is low mood convergence amongst team members? In a similar vein, researchers might also wish to take into consideration the intensity of followers' expressed emotions, and how such differences in mood valence and intensity might impact leader mood and task effectiveness.

Appendix A. Measure of leader task effectiveness

Here are several statements that you may agree or disagree with. Read each statement carefully and write a number next to each statement to indicate the extent to which you agree or disagree with that statement, whereby (1 = strongly disagree and 5 = strongly agree).

-
1. The leader employed effective strategies for the task.
 2. The leader directed the task competently.
 3. I know the leader well.
 4. The leader made correct use of the resources.
 5. The leader displayed good capability in directing the task.
 6. I am familiar with the leader.
 7. The leader's directions were clear for this activity.
 8. The leader's directions were appropriate for this activity.
 9. I have interacted with the leader extensively before.
-

Note.

Items 3, 6 and 9 correspond to the followers' familiarity with the leader and were used in Study 1 only.

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