

# **Emotional Contagion from Followers to Leaders, and its Effect on Leadership Effectiveness and Speed**

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## **ABSTRACT**

Emotional contagion has been defined as a tendency to mimic the emotions and non-verbal expressions of others, thus becoming 'infected' with another's emotional state. In an organisational context, emotional contagion has been examined from both a group and leadership perspective. Previous authors have examined emotional contagion from leaders to followers, but no study to date has examined emotional contagion from followers to leaders. In the present study, therefore, we examine the possibility that leaders could 'catch' emotions from their followers, and what implications this has for leadership capabilities. We found that leaders did catch both positive and negative from their followers, and that positive mood fully mediated the effect of follower's mood on leadership effectiveness and speed.

*Keywords: Emotional contagion, leadership, moods, leadership quality*

## **Emotional Contagion from Followers to Leaders, and its Effect of Leadership Effectiveness and Speed**

Emotional contagion was defined by Hatfield, Cacioppo & Rapson (1994: 5) as “the tendency to automatically mimic and synchronize facial expressions, vocalizations, postures and movements with those of another person and, consequently, converge emotionally”. Barsade (2002) recently demonstrated in particular the important implications of emotional contagion in work teams. Her study has since been extended by Sy, Côté, and Saavedra (2005), who found the leaders’ emotions can also affect the mood and performance of their followers. The question remains, however as to whether emotional contagion can flow from followers to their leaders. Specifically, can leaders be ‘infected’ by the mood of their followers? If so, what implications for leadership performance do this form of emotional contagion present? In this preliminary study, we employed a laboratory experimental study to examine emotional contagion from followers to leaders.

Emotional contagion has been examined intensively in both social and organisational behaviour. Neumann and Strack (2000), Gump and Kulik (1997), and Doherty (1998) all found evidence of emotional contagion occurring within dyadic relationships. In another study, Totterdell (2000) found occurrences of emotional contagion in a sporting team. Emotional contagion has also been examined in work groups by authors such as Totterdell, Kellett, Teuchmann, and Briner (1998), Bartel and Saavedra (2000), Barsade (2002), and Verbeke (1997). Importantly, emotional contagion has been found to be operative in leader-follower relationships (Hsee, Hatfield, Carlson & Chemtob, 1990; Sy, Côté & Saavedra, 2005). Adding to its impact on mood, authors have also found emotional contagion to affect individual and group task performances, perceptions and judgments (Barsade, 2002; Bartel & Saavedra 2000).

Our research focuses specifically on emotional contagion from a leadership perspective. To the best of our knowledge, no study has yet directly examined emotional contagion from followers to leaders. Although Barsade (2002) and Sy et al. (2005) considered the possibility of followers influencing leader moods, their research was predicated on an assumption that leaders, holding a higher degree of authority, are more likely to transfer their moods to followers than vice

versa. Our study does not challenge this assumption; instead, we argue that emotional contagion is essentially a process that can also flow from followers to leaders, and hence, upward contagion can occur.

### Conceptual Development

We posit that this upward contagion effect will have impacts on leadership quality, defined here as the extent to which leaders direct followers effectively and expediently in attaining group goals and objectives. Our overall model is illustrated in Figure 1. Thus, follower mood affects the leader's mood, which in turn impacts the leader's effectiveness and speed.

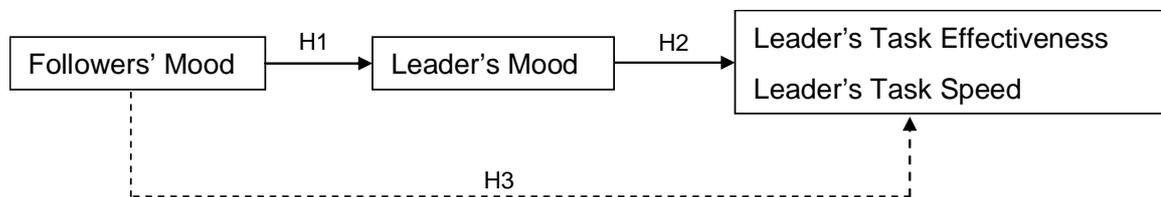


Figure 1: Proposed Model

#### *Influence of Followers' Mood on Leader's Post-Task Mood*

At the core of our model is the idea that followers' collective mood can 'transfer' to leaders, and that leaders will 'catch' the mood states of their followers. The study by Hsee and his colleagues (1990) examined the extent to which power impacted the extent of emotional contagion. These authors hypothesised that individuals with more power (i.e. leaders) were more likely to transfer their moods to individuals with less power (i.e. followers). The results of their study, however, were surprising. Individuals with more power likely were found to be *more* susceptible to the moods of their powerless subordinates. Although Hsee and his colleagues found this inadvertently, their findings do suggest that emotional contagion can flow from powerless to powerful individuals. Hence, we posit that leaders can indeed be 'afflicted' with their followers' mood, whereby:

*Hypothesis 1a:* Leaders of positive-mood groups will experience more positive mood.

*Hypothesis 1b:* Leaders of negative-mood groups will experience more negative mood.

*Emotional Contagion and Impacts on Leadership Quality*

We also examine how emotional contagion affects leadership quality. Here we define leadership quality as the extent to which leaders effectively and expediently direct their followers to completing the assigned task. Leadership *effectiveness* here refers to the degree to which a leader exhibits competency in leading followers, while leadership *speed* refers to the expediency and in which leaders direct followers towards achieving productive, quality outcomes (DuBrien & Dalglish, 2003). Task effectiveness and speed have been found to be affected by the extent of emotions transferred to an individual. For instance, in the studies by Sy and his associates (2005) and Barsade (2002), leaders and groups were found to co-ordinate their tasks less effectively under a negative mood. George (2000) and Isen, Daubman and Nowicki (1987) have also found that negative moods fostered more detailed, deliberate decision-making, hence reducing information processing speed. As such,

*Hypothesis 2a:* Leaders in a positive mood will exhibit higher levels of task effectiveness than leaders in a negative mood.

*Hypothesis 2b:* Leaders in a positive mood will exhibit higher levels of task speed than leaders in a negative mood.

*Leader's Mood as a Mediator of Follower Mood and Leader Effectiveness and Speed*

We posit further that the leader's mood will have a mediating effect between the followers' mood and the leader's task effectiveness and speed. The leader's mood will hence represent a mediator in the proposed model.

To hypothesise this mediating effect, we argue that, since the leader's mood represents a mediator, its absence (i.e. removing the variable from the model) will result in a significant correlation between followers' mood and leader task effectiveness and speed. Conversely, the inclusion of the mediating variable (leader's mood) will result in a statistically insignificant correlation between followers' mood and leader task effectiveness and speed (MacKinnon, Warsi & Dwyer, 1995).

*Hypothesis 3a:* The leader's mood will mediate the effect of the followers' mood on the leader's task effectiveness and speed, which implies ...

*Hypothesis 3b:* The followers' mood will have a non-significant correlation with leader's task effectiveness and speed when the leader's mood is accounted for.

## METHOD

### Participants

Three hundred and twelve (312) students aged 19-22 from an undergraduate leadership course were selected for this study. The study was incorporated as part of a classroom leadership exercise. The students formed 50 tutorial groups in total. Two groups were excluded because of incomplete questionnaires, resulting in a final sample size of 288 students and 48 groups. Groups consisted of five to six male and female participants, and the 48 group leaders comprised 25 males and 23 females, averaging 20 years of age.

### Measures

*Leader and Follower Mood.* Leader and follower moods were evaluated via the Positive and Negative Affect Scale (PANAS: (Watson, Clark & Tellegen, 1988). The version of PANAS we employed consists of 20 adjectives describing a certain mood state and asks respondents to evaluate mood states on a 5-point Likert scale. The scale is well validated, possesses high internal consistency, and has been used extensively by organisational researchers evaluating mood states (e.g., Sy et al., 2005; Ilies & Judge, 2002). For this study, the followers used the PANAS to assess the mood of the leaders. The observers completed the same scale to assess the mood of both leader and followers. Leaders used the PANAS to self-report their own mood. Leaders also assessed the mood of their followers to evaluate the extent to which they displayed positive mood via a set of new measures. The leader's evaluation of followers' positive mood items also exhibited high reliability ( $\alpha = .91$ ).

*Leader Task Effectiveness and Speed.* Two new scales were developed to assess the leaders' task effectiveness and speed. The new 12-item questionnaire measures were developed to assess observers' and followers' evaluations of the leader's effectiveness and speed in completing the assigned task. Specifically, the dependent variables – leader task effectiveness and speed were

evaluated by both the followers and the observers. Both measures use 5-point Likert scales. Since these are new measures, their psychometric properties and reliabilities were also evaluated (see below). This new scale is presented below:

- Q1. The leader displayed quickness when completing the activity.
- Q2. The leader employed effective strategies for completing the task.
- Q3. The leader carried out the leadership role with little or no delay.
- Q4. The leader directed the task competently.
- Q5. The leader was quick in providing directions and building instructions.
- Q6. The leader made correct use of the resources.
- Q7. The leader exhibited promptness during the activity.
- Q8. The leader displayed good capability in directing the task.
- Q9. The leader directed the task speedily.
- Q10. The leader's directions were clear for this activity.
- Q11. The leader directed the task expediently.
- Q12. The leader's directions were appropriate for this activity.

### **Procedure**

At the start of the activity, participants were informed that the activity requires a leader and two followers to work together as a team to assemble a model car within 12 minutes. The remaining participants were assigned the role of observer. The leader was assigned to direct the task of building the model car, while the followers were assigned to build the car itself. Observers were to note and watch the activity as it happens. Each role had different responsibilities and was briefed separately in different rooms.

In the followers' briefing, they were explicitly told to act in either a positive or negative mood when interacting with their leader. This represents a mood manipulation for this study, in that the participants assuming follower roles were effectively acting as confederates. In addition, the followers (unbeknownst to the leader) were instructed in how to complete the model car during their briefing, and were given the opportunity to practice in the briefing. This ensured that the (confederate) followers were able to complete the model car within the allotted 12-minute time limit.

In their briefing, the leaders were instructed to fill out a pre-task mood questionnaire. While the leaders are completing their questionnaires, the observers were briefed on their roles in the activity. Upon completion of the questionnaires, leaders were then given the instructions on how to build the model and hints on relaying the building instructions to followers. The leaders and observers, who were blind to the experimental conditions, served as the source of the main

dependent variable. Like the leaders, the observers are also blind to the experimental treatments of this study. The observers represent an objective source of leader and follower mood evaluations. All three roles provide data for specific elements of the study.

All participants regrouped in the class after the briefings, and the leaders and their followers then began the activity. The followers constructed the model car while acting out their assigned mood. The leaders provided only verbal instructions to the followers. Observers began completing their mood questionnaires, assessing leader and follower moods throughout the task. A facilitator was assigned to keep track of time, and reminded groups when they have 2 minutes remaining in the activity. The activity was timed to be completed in approximately 12 minutes.

Once groups have finished the activity or run out of time, they were then instructed to stop the activity. Each participant is then handed a specific questionnaire and informed to complete them. Leaders completed a post-task mood questionnaire (PANAS). The leader post-task mood questionnaire is a second PANAS, but with the measurement items shuffled to eliminate common method bias. In particular, we tried to lower the extent to which leaders answered the second PANAS scales simply via memory recall (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). Followers completed the leader post-task mood (PANAS) and leadership quality questionnaires. Finally, observers completed the leadership quality questionnaire. Leader mood was evaluated by all three roles in the activity (leader, followers and observers). Leader task effectiveness and speed was evaluated by the observers and the followers.

Groups were then debriefed and thanked for their participation. The validity of this study relies on participants not informing future potential participants that (1) the followers were *deliberately* acting a certain mood state and (2) the followers already knew how to build the model before interacting with the leader. As such, participants were sworn to secrecy, and asked not to disclose any information regarding this study to their colleagues. To ensure validity, participants were also assessed on the believability of the confederates' (followers') acting and also to reveal if they had prior knowledge of the experiment's purpose. None of the leaders revealed any knowledge of the experiment beforehand.

## RESULTS

### Descriptive Statistics and Validation of Measures

Table 1 presents the bivariate correlations, means, standard deviations and Cronbach alphas relevant to the present study. From the table, it is clear that all scales used in this study exhibited acceptable reliability (i.e.  $\alpha > .70$ ; Nunnally, 1978).

#### *Completion of Task and Impacts on Leader Post Positive and Negative Affect*

40 groups out of the valid 48 groups completed the model car within the allotted 12 minutes for the activity. In the bivariate correlation analysis, we assigned a '0' to teams that did not complete the model car and a '1' to teams that managed to successfully complete the car. The leader's post-task positive affect correlated positively with task completion at .19. The leader's -task negative affect exhibited an inverse relationship with task completion at -.10. Both relationships, however, are non-significant, implying that the leader's mood was hence not significantly influenced by the extent of the task's completion, as indicated by the leader's self report of mood. No significant correlations between the degree of task completion and the followers' or observers assessments of leader mood were found either. All groups were hence included into the final sample size.

#### *Assessment of Leader Mood*

For our analysis, we relied on the leaders' and observers' evaluations as indicators of followers' mood. To assess leaders' mood, we used the leaders' own self-report of mood and also assigned the followers and the observers to evaluate the leaders' mood. We found strong, significant correlations between the leaders' self-report of positive mood with both the followers' and observers' evaluations of leaders' positive mood. Specifically leaders' self-report of positive mood correlated significantly with followers' evaluation of leader positive mood ( $r = .61, p < .01$ ). Leaders' self-report of positive affect also significantly correlated with observers' evaluation of leader positive mood ( $r = .34, p < .05$ ).



Table 1: Descriptive Statistics

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Gender	1.47	.50																	
2. Age	20.00	2.65	.11																
3. Condition	2.00	.76	-.06	-.04															
4. Completion	.81	.39	-.03	-.43**	-.30*														
5. L-Post PA	3.13	.98	-.18	.01	-.13	.19	(.93)												
6. L-Post NA	1.63	.71	-.01	-.21	.11	-.10	-.35*	(.89)											
7. L-Team Positive mood	3.73	1.22	-.34*	-.03	-.02	.03	.68**	-.31*	(.94)										
8. F-Leader PA	2.91	.76	-.12	.00	-.03	.16	.61**	-.26	.49**	(.91)									
9. F-Leader NA	1.75	.56	.06	.03	.07	-.01	-.33*	.05	-.33*	-.24	(.88)								
10. F-Leader Effectiveness	3.69	.83	-.18	.07	-.23	.23	.70**	-.39**	.44**	.66**	-.29	(.91)							
11. F-Leader Speed	3.65	.90	-.12	-.02	-.26	.39**	.67**	-.38*	.42**	.73**	-.21	.93**	(.93)						
12. O-Leader PA	3.17	.50	-.10	.21	.10	-.02	.34*	-.20	.41**	.29*	-.18	.29	.27	(.90)					
13. O-Leader NA	1.51	.33	-.02	-.32*	.21	-.13	-.13	.27	.03	-.16	-.10	-.31*	-.29	.03	(.83)				
14. O-Team PA	2.74	.75	-.16	-.03	-.14	.10	.46**	-.29*	.57**	.36*	-.20	.43**	.42**	.61**	.00	(.92)			
15. O-Team NA	1.45	.27	-.04	-.25	.17	.18	-.29*	.38**	-.39**	-.18	.11	-.43**	-.36*	-.14	.54**	-.26	(.73)		
16. O-Leader Effectiveness	3.85	.66	-.34*	.27	-.05	.14	.55**	-.50**	.46**	.55**	-.12	.70**	.69**	.49**	-.44**	.34*	-.35*	(.91)	
17. O-Leader Speed	3.78	.76	-.27	.24	.06	.15	.44**	-.30*	0.26	.45**	-.17	.59**	.61**	.49**	-.32*	.30*	-.022	.80**	(.92)

L- Leader Surveys; F-Follower Surveys; O-Observer Surveys

N=48, \* = p <.05; \*\*= p <.01

Leaders' self-reports of negative mood were however, found to be more non-significantly correlated with both the followers' and observers' evaluation of leader negative mood. Specifically, leader negative mood correlated with followers' evaluation of leader negative mood at .05 (n.s.) and with observers' evaluation of leader negative mood at .27 (n.s.). Both correlations are not statistically significant, arguably because of our small N, and possibly because negative mood is not as conspicuously perceived as positive mood (Totterdell, 2000; Barsade, 2002). Nonetheless, the scales illustrate high reliabilities. For further analyses, we have chosen to rely on the leader's self-report of mood.

#### *Assessment of Followers' Mood*



Leader and observer correlations of followers' mood were also found to be highly correlated. Specifically, leader assessment of followers' mood correlated strongly with the observers' own evaluations ( $r = .57, p < .01$ ). Leader and observer correlations with team negative mood also correlated strongly ( $r = -.39, p < .01$ )

The treatment condition for this experiment (Item 3) was not, however, a significant predictor of the mood and affect measures in our study. This suggests that our manipulation did not successfully influence the portrayal of mood by the followers. There are several reasons why this would have occurred. Although randomisation was conducted at the start of the activity, existing preconceptions and perceptions held by the participants may have contributed to the treatment condition having less impact than intended. Second, the setting and external environment influences may have also influenced the treatment conditions of the study. Third, because of the small N, our statistical tests lacked the power to detect this effect. Nonetheless, the multiple reports of followers' mood that we used in this study make up for this deficiency. By using observers, who were blind to the experimental condition, to provide objective evaluations of leader and follower mood, we still had reliable and accurate measures.

#### *Leader Task Effectiveness and Speed*

The measurement scales used by both the followers and the observers to evaluate the leader's effectiveness and speed also showed high reliabilities. We assessed the reliabilities of

leader task effectiveness and leader task speed. Alphas for observer evaluations of leader task effectiveness and speed were .91 and .92 respectively. Alphas for follower evaluations of leader were both .91 for task effectiveness and .93 for task speed. We also conducted an exploratory factor analysis (Principal Axis Factoring with Varimax rotation) on all the measurement items for both the observer and follower evaluation of the leader. These verified that all items loaded on their expected factors.

## **Hypothesis Tests**

### *Influence of Follower's Mood on Leader's Mood*

We found that leader evaluations of followers' positive mood correlated strongly with leaders' self-report of positive mood at  $r = .68$  ( $p < .01$ ). The followers' evaluation of leader positive mood also correlated significantly with leaders' evaluation of team positive mood,  $r = .49$  ( $p < .01$ ). Finally, we also found a significant correlation between the leader's self-report of positive mood with observers' evaluation of followers' positive mood,  $r = .46$  ( $p < .01$ ). Given a convergence on these findings and agreement between the leaders' own self-report of mood, the followers' assessment of leader mood and observers' assessment of leader mood, we find support for Hypothesis 1a.

A similar set of analyses using the same raters was used to test Hypothesis 1b. Leader's evaluation of followers' negative mood correlated with leader's self-report of positive mood at  $r = -.31$  ( $p < .05$ ). Followers' evaluation of leader negative mood also correlated significantly, and inversely with the leaders' evaluation of team positive mood at  $r = -.33$  ( $p < .05$ ). Further, we found that the leader's self-report of negative mood correlated with the observers' evaluations of followers' negative mood at  $r = .38$ . Hypothesis 1b is also supported in view of these findings.

### *Emotional Contagion and Impacts on Leader Task Effectiveness and Speed*

In Hypothesis 2, we posited that leaders in a positive mood will exhibit higher task effectiveness and speed than leaders in a negative mood. As with evaluations of leaders' mood, we used the leader's self-report of mood and both the followers and the observers' evaluation of leader's task effectiveness and speed to test this hypothesis. Correlations between leaders' self-

report of positive mood and followers' evaluations of leader task effectiveness by followers was found to be significant,  $r = .70$  ( $p < .01$ ). Leader speed evaluations by followers were also found to be significant,  $r = .67$  ( $p < .01$ ). The observers' evaluations of leader effectiveness and speed also yielded significant results. Specifically, positive-mood leaders correlated strongly with observers' evaluations of leaders' effectiveness,  $r = .55$  ( $p < .01$ ) and speed,  $r = .44$  ( $p < .01$ ) respectively. Hence, the more positive the leader's mood, the higher their perceived task effectiveness and speed, consistent with Hypothesis 2a.

Significant correlations between leaders' self-report of negative mood and leader task effectiveness and speed were also found. Leaders' self-report of negative mood Correlated with followers' ratings of leaders' task effectiveness and speed at  $r = -.39$  ( $p < .01$ ) and  $r = -.38$  ( $p < .05$ ) respectively. Correlations between observer evaluations of leader task effectiveness and speed with negative-mood leaders was found to be  $r = -.50$  ( $p < .01$ ) and  $r = -.30$  ( $p < .05$ ) respectively. As such, consistent with Hypothesis 2b, we can conclude that negative-mood leaders exhibit lowered task effectiveness and speed relative to positive-mood leaders.

#### *Mediating Effect of Leader's Mood*

We find support for H1a and H2 thus far. Hence, our results confirm that the leaders 'caught' their followers' positive mood, and that this in turn, led to higher leader task effectiveness and speed. According to Baron and Kenny (1986), a full mediation effect is found if four conditions are met: (1) the independent variable (the IV) predicts the mediating variable (the MV); (2) the MV predicts the dependent variable (the DV); (3) the IV predicts the DV when the MV is not included in the equation, and (4) the direct IV-DV link is significantly reduced and not significant if the MV is included in the equation (Tzelgov & Henik, 1991; MacKinnon, Warsi & Dywer, 1995; Baron & Kenny, 1986). To test this, we used the observers' assessment of followers' mood as a more objective rating of the IV. Leaders provided ratings of their own mood, the MV. Finally, the observers provided the evaluation of the DVs – leader task effectiveness and speed.

We first tested the results for positive-mood contagion. For leader effectiveness, we found a significant effect of followers' mood and leader's mood on the DV,  $r = .34$  ( $p < .05$ ) and  $r = .55$  ( $p < .01$ ) respectively. When both the followers' mood and the leader mood were included in the

regression, however, only leader mood,  $\beta = .50$  ( $p < .01$ ) remained significant; the followers' mood effect was no longer significant at  $\beta = .11$ . To test for a significant decrement in the direct IV-DV link, we employed a Sobel (1982) test. The Sobel test statistic was found to be 2.17 ( $p < .05$ ), thereby implying a full mediation. A similar test was conducted for leader speed. The effect of followers' mood on leader mood was  $r = .30$  ( $p < .05$ ), while the leader's positive mood was significantly predicting leader speed at  $.44$  ( $p < .01$ ). The inclusion of leader's mood into the regression results in a non significant IV-DV link at  $\beta = .12$ . The Sobel test statistic was found to be 1.79 ( $p < .1$ ). Although this is a comparatively weaker significance level, it must be noted that the small sample size here may have resulted in a weaker Sobel test statistic (Preacher & Leonardelli, 2001).

We then tested the results for negative-mood contagion using the same evaluators. In view that the followers' negative mood was not significantly predicting leader's speed ( $r = -.22$ , n.s.), we tested the mediation for task effectiveness only. Observers' evaluation of follower negative mood (IV) was correlated with leader's mood (MV) at  $r = .38$  ( $p < .01$ ) and with leader task effectiveness at  $r = -.35$  ( $p < .01$ ). Leader's negative mood correlated with their task effectiveness (DV) at  $-.50$  ( $p < .01$ ). The inclusion of both the IV and the MV into the regression results in a non-significant IV-DV link. Specifically, the followers' mood was no longer predicting leader effectiveness ( $\beta = -.19$ ). The Sobel test for this analysis was 2.14 ( $p < .05$ ), also implying full mediation.

From the above tests, we find that the leader's mood fully mediates the relationship between followers' mood and leader task effectiveness and speed. We find support for the hypothesised contagion effect, and that emotional contagion from followers has affected leader mood and performance. Full mediation was found for positive mood and negative mood, although the negative-mood contagion effect was limited to task effectiveness only. Hypotheses 3a and 3b are both supported.

## DISCUSSION

The results of our study show that leaders can 'catch' the mood of their followers, and that this form of emotional contagion has implications for leader effectiveness and speed. Specifically, we found that leaders 'caught' on the moods from their followers, and this affected their task

effectiveness and speed. The leader's mood was found to be a full mediator of the effect of follower mood on leader task effectiveness and speed. Surprisingly, we found only weak support for our prediction that followers' negative mood would influence the leader's decision speed. This may be due to the comparatively small sample size ( $N = 48$ ) of this study, which lowers the ability to detect significant relationships. Nonetheless, we found that the leaders did catch the moods of their followers, and this in turn, either improved or lowered their task effectiveness. In summary, results from the mediation analyses above indicate that positive mood improved the leader's task effectiveness and speed, while negative mood decreased the degree of task effectiveness exhibited by the leader.

### **Theoretical and Practical Implications**

Despite our study's small sample size, the findings here indicate that leaders can and do catch moods from their followers. Specifically, leaders were found to have become 'infected' with followers' moods, and this in turn affected their task effectiveness and speed in directing their teams. Our findings here concur with Weierter's (1997) suggestions, stating that followers can influence leadership processes and outcomes via their attributions and expressions towards their leaders. George (2000) also argues that, when leadership is taken from a follower-centric approach, leaders themselves can be empowered by the behaviours of their followers. Our findings here suggest that the leadership process can be affected by the followers' moods themselves.

From a managerial perspective, our findings suggest that positive affect enhances a leader's ability to lead and manage teams. Followers play a central role in fostering a positive leadership climate and have the ability to enhance the leader's task effectiveness and speed.

### **Limitations and Future Research**

The present study has three key limitations. First, while we took steps to maximize participation and attendance in the tutorial groups, the resulting sample size of 48 groups was less than optimal for the study. We acknowledge that the relatively small sample in this research lowers the ability to detect significant relationships (Chen & Klimoski, 2003). The results, nonetheless,

still lend support for most of our hypotheses, and a strong mediating effect of leaders' mood was found.

Second, given the experimental nature of this study, the findings here may lack real-world generalizability, and some may argue that the activity does not portray real leadership responsibilities. Nonetheless, this activity was designed based on similar leadership and team building exercises used in previous studies (see Sy, et al., 2005; Barsade, 2002). Further, we concur with arguments from Mook (1983) and Ilgen (1986) and position the findings here as contributors to theory building. Our findings here hence suggest that the transmittance of moods from followers to leaders constitutes a possibility.

Thirdly, while we took pains to cross-validate our findings by comparing leader, follower, and observer ratings, our measures may still have been susceptible to common method bias (Podsakoff et al., 2002). In particular, we used the PANAS scales twice for the leaders' self-reports of their own mood. While we rearranged the items in the second PANAS questionnaire, we are still unable to fully eliminate the possibility that leaders may have simply recalled their previous answers in answering the second PANAS scale.

For further research, it would also be interesting to note other possible effects of emotional contagion on other leadership roles. In the present study, we found positive affect to improve leaders' task effectiveness and speed. Real leadership roles, however, encompass a broader spectrum of responsibilities including decision-making, and it would be insightful to examine to what extent positive and negative mood can influence leader decision-making skills.

Finally, our current study reflects the emotional contagion effect on leaders in self-managing teams. The teams used in this study are likened to self-managing groups, since the followers already knew how to build the model car beforehand. A similar study, using more hierarchical teams may elicit different degrees of emotional contagion effects on the leader.

In conclusion, our study shows that emotional contagion can occur from followers to leaders, and this has implications for leaders' task effectiveness and speed. Our findings show that followers' moods can influence the leaders' mood, and this in turn, has implications for leader task effectiveness and speed.

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