



# Labels and leaders: The influence of framing on leadership emergence

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## ABSTRACT

In two studies, this paper examines the influence of task framing on leadership emergence in mixed-gender dyads. In Study 1, we found that males are more likely to emerge as leaders when a paper-folding task is framed as masculine (i.e., Building Project) relative to feminine (i.e., Art Project). Furthermore, females are more likely to emerge as leaders when a paper-folding task is framed as feminine relative to masculine. In Study 2, we conceptually replicate these results using a weaving task (framed as Knot-Tying Task vs. Hair-Braiding Task) and find that perceived competence is the mechanism through which task framing affects leadership emergence. Taken together, these results suggest that task framing can influence the emergence of leaders because of changes in perceptions of competence. These findings are discussed in the context of related theoretical findings and managerial implications are elaborated on.

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## 1. Introduction

Framing, defined as the way in which information is presented (Loke, 1989), has long been argued to affect people's behaviors in profound ways (e.g., Goffman, 1974). For instance, framing a social dilemma activity as a Wall Street Game (as opposed to a Community Game) increases competitiveness (Liberman, Samuels, & Ross, 2004), framing negotiations as an opportunity for asking (as opposed to an opportunity to negotiate) can increase women's initiation of negotiations (Small, Gelfand, Babcock, & Gettman, 2007), and framing a golf task as a sports intelligence task or a natural athletic ability task leads to higher performance among Whites and Blacks, respectively (Stone, Lynch, Sjomeling, & Darley, 1999). Furthermore, framing alternatives as losses can increase people's levels of risk seeking (Kahneman & Tversky, 1984) and lead to preference reversals (Tversky & Kahneman, 1981).

Given the important effects and multitude of domains that framing has been applied to, it is surprising that framing has not been applied to the study of leadership emergence. Leadership emergence research examines how leaderless groups come to have a leader (see Mann, 1959 for review) and conceptualizes emergent leaders as group members who exhibit high levels of leadership behaviors, thereby attaining status in the initially equal status group (Berdahl, 1996). Leadership emergence has been assessed through group (or dyad) member perceptions of other group members (e.g., Berson, Dan, & Yammarino, 2006; Cronshaw & Lord, 1987; Gershenoff & Foti, 2003; Lord, Foti, & De Vader, 1984; Watson & Hoffman, 2004) or the coding of emergent leadership behaviors of individuals in groups (and dyads) by outside observers (e.g., Foti & Hauenstein, 2007; Guastello, 2007; Karakowsky & Siegel, 1999).

It is important to examine whether framing can affect leadership emergence because while tasks given to teams are not usually malleable, frames are highly malleable and thus may be an important and practical tool to spur leadership emergence. Furthermore, much of the research on leadership emergence has focused on the traits and individual differences that predict the emergent leader in dyads and groups (e.g., Côté, Lopes, Salovey, & Miners, 2010; Judge, Bono, Ilies, & Gerhardt, 2002; Kellett,

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Humphrey, & Sleeth, 2006; Smith & Foti, 1998; Taggar, Hackett, & Saha, 1999; Wolff, Pescosolido, & Druska, 2002). The application of framing in this domain would establish a compelling situational determinant of leadership emergence.

The research most relevant to the question of whether framing might affect leadership emergence is in the domain of gender and leadership. In this area of research, it has been found that *varying tasks* can affect leadership emergence outcomes. Specifically, the gender type of the task (i.e., whether a task is stereotypically male or female) has been found to affect whether males or females are more likely to emerge as leaders (Carbonell, 1984; Eagly & Karau, 1991; Hall, Workman, & Marchioro, 1998; Lips & Keener, 2007; Megargee, 1969; Ritter & Yoder, 2004).

For example, Karakowsky and Siegel (1999) found that a masculine task (i.e., discussion about hard-nosed negotiations for cars) led to males displaying greater patterns of emergent leadership behaviors while a feminine task (i.e., discussion about sexual harassment in negotiations of job responsibilities) led to females displaying greater emergent leadership behaviors. Similarly, Wentworth and Anderson (1984) found that females in mixed-gender groups were more likely to display leadership emergence when engaged in a feminine-oriented task (to decide how to spend \$10,000 in designing a *wedding*) as compared to a masculine task (to decide how to *invest* a \$10,000 inheritance).

While the aforementioned research has manipulated the tasks given to dyads and groups, we suggest that the *framing* of the task (i.e., varying the label of the task, while holding the task constant) may be just as or more important than the task itself in determining leadership emergence. Thus, in the present paper, we build on these past studies by examining how framing a task as masculine or feminine may impact leadership emergence in mixed-gender dyads. Past research has found that framing tasks as masculine or feminine affects males and females engaged in these tasks. For instance, framing anagrams tasks as masculine or feminine has been shown to impact female performance in a competitive environment (Lee, 1987; Makosky, 1976). Furthermore, when performing a task framed as feminine as opposed to masculine, males experience increased self-consciousness and discomfort (Bosson, Prewitt-Freilino, & Taylor, 2005) and exhibit increased subsequent aggression (Bosson & Vandello, 2011). In light of the evidence that framing tasks as masculine and feminine can affect male and female performance and behaviors, we make the following prediction:

**Hypothesis 1.** Task framing will be related to leadership emergence. Specifically, males will be more likely to emerge as leaders in mixed-gender dyads when a task is framed as masculine relative to feminine. Furthermore, females will be more likely to emerge as leaders in mixed-gender dyads when a task is framed as feminine relative to masculine.

Expectation states theory (Berger, Rosenholtz, & Zelditch, 1980; Driskell & Mullen, 1990) provides a rationale for why task framing may affect leadership emergence in mixed-gender dyads. This theory predicts that, in task-oriented groups, individuals pay attention to social hints regarding the potential task competence of themselves and their group members (i.e., status cues), such as gender, race, and education. These cues are used to form expectations regarding each member's competence level (i.e., expectation states) during interactions (Berger, Webster, Ridgeway, & Rosenholtz, 1986). In turn, these expectation states lead to a social hierarchy whereby those individuals perceived as highest in competence wield the greatest influence (Berger, Wagner, & Zelditch, 1985).

This theory has been used to explain social hierarchies and inequalities in task groups involving individuals of different race (Webster & Driskell, 1978), age (Freese & Cohen, 1973), educational attainment (Moore, 1968), and abilities (Wagner & Berger, 1982; Webster, 1977). Importantly, expectation states theory has been utilized as a framework to understand gender differences in leadership emergence (Lockheed & Hall, 1976; Ridgeway & Bourg, 2004). Specifically, males exhibit an increased likelihood of emerging as leaders in masculine tasks relative to feminine tasks because they are perceived to be more competent at masculine tasks. In the same way, females exhibit an increased likelihood of emerging as leaders in feminine tasks relative to masculine tasks because they are perceived to be more competent at feminine tasks. Demonstrating that competence perceptions cause gender differences in leadership emergence is crucial in testing for expectation states theory's applicability to studies in gender and leadership emergence (Wood & Karten, 1986).

Applying expectation states theory to the present study, framing tasks as masculine or feminine may also affect males and females in a similar manner as changing the task itself. That is, being a male is a social hint for competence in a masculine framed task while being a female is a social hint for competence in a feminine framed task. Thus, as the framing of a task shifts, perceptions of competence will be altered, which may ultimately affect leadership emergence. For example, while being female may indicate expertise and performance capacities in a weaving task framed as a *Hair-Braiding Task*, being female may not indicate competence in the same task framed as a *Knot-Tying Task*. Thus, females may be more likely to emerge as leaders in a task framed as hair-braiding relative to knot-tying because they are perceived as more competent in the Hair-Braiding Task. According to this reasoning and in line with expectation states theory, we proposed the following mediation hypothesis:

**Hypothesis 2.** Perceived competence will mediate the relationship between task framing and leadership emergence in mixed-gender dyads.

### 1.1. Overview of studies

The following studies were designed to test the study hypotheses using experimental methods. Study 1 examines how task framing affects leadership emergence through the coding of leadership emergence behaviors by external *coders*. Study 2 examines whether task framing affects leadership emergence from the perspective of *members of the dyads*. In addition, Study 2 examines whether perceived competence is the mechanism through which task framing may affect leadership emergence.

## 2. Study 1

Study 1 tests for the influence of task framing on patterns of emergent leadership behaviors in mixed-gender dyads. Specifically, we investigate how framing the same paper-folding task as masculine (i.e., Building Project) or feminine (i.e., Art Project) through the task label may alter the patterns of emergent leadership behaviors of individuals in mixed-gender dyads. We expect that males will exhibit greater patterns of leadership emergence behaviors when the task is framed as masculine relative to feminine. Furthermore, we expect that females will exhibit greater patterns of leadership emergence behaviors when the task is framed as feminine relative to masculine.

### 2.1. Methodology

#### 2.1.1. Participants

One hundred and twenty participants (60 males, 60 females) from a public East Coast University participated in the study in exchange for course credits. Each participant was randomly paired with another participant of the opposite sex. Thus, we had 60 mixed-gender dyads (i.e., male–female pairs). Participants' ages ranged from 17 to 28 ( $M = 19.05$ ,  $SD = 1.23$ ).

#### 2.1.2. Procedure

Participants were brought into a room where they first read and signed the consent form and were told that the “Teamwork Study” would be video recorded. Next, males and females were randomly assigned into mixed-gender dyads where the experimenter gave them a folder with an instruction sheet for a paper-folding task. The name of the task was clearly labeled on the top of the instruction sheet and was randomly varied such that half of the dyads received instructions with a *Building Project* label and half of the dyads received instructions with an *Art Project* label. Participants were allocated 20 min to complete as many of the tasks as possible while their dyadic interactions were being video recorded. Upon completion of the task, participants filled out a demographic questionnaire and were presented a debriefing paragraph.

#### 2.1.3. Independent variable

*Task framing condition.* Participant pairs were randomly assigned to one of two conditions: Building Project ( $n = 31$ ) or Art Project ( $n = 29$ ). In the Building Project condition, participants received a paper-folding task with a Building Project label and in the Art Project condition, participants received a paper-folding task with an Art Project label.

#### 2.1.4. Dependent variable

*Leadership emergence behaviors.* Research suggests that task-oriented behaviors are associated with leadership emergence in task-oriented groups (e.g., Carter, Haythorn, Shriver, & Lanzetta, 1951; Kirscht, Lodahl, & Haire, 1959; Morris & Hackman, 1969; Stein & Heller, 1979; Mullen, Salas, & Driskell, 1989), and are perceived as the most appropriate form of leadership behavior under time pressure (Kerr, Schriesheim, Murphy, & Stogdill, 1974). Hence, we chose two task-oriented leadership emergence behaviors to code for. The first behavior coded was the *first individual to make a suggestion* (0 = male; 1 = female). This behavior may be representative of *initiative*, a crucial emergent leadership behavior (Bass, 1990; Van Vugt, 2006). The second behavior coded was the *first individual to contradict their partner* (0 = male; 1 = female). This behavior may suggest an *attempt to influence*, which has also been identified as an essential leadership emergence behavior (Bass, 1981; Geier, 1967; Kent & Moss, 1994).

The two leadership emergence behaviors were recorded and coded by the experimenter through the observation of the participants' interactions while they worked. The experimenter was blind to the experimental hypothesis and participants' condition. To assess the reliability of the experimenter's judgments, a second coder viewed tapes of the interactions and coded for the same two behaviors (99% agreement on first to make a suggestion; 94% agreement on first to contradict their partner). In the cases where there was disagreement, a third coder was called in to view the tape and render their judgment.

## 2.2. Results and discussion

Descriptive statistics and correlations are listed in Table 1.

### 2.2.1. Leadership emergence behaviors

*First to make suggestion.* Among the 31 pairs randomly assigned to the building project condition, the male was the first to make a suggestion in 22 (71%) of the pairs, and the female partner was the first to make a suggestion in 9 (29%) of the pairs.

**Table 1**

Study 1 descriptive statistics and correlations among task frame condition and outcome variables.

Variable	M	SD	1	2
1. Task frame condition (0 = Building; 1 = Art)	.48	.50	–	
2. First to make suggestion (0 = male; 1 = female)	.45	.50	.33**	–
3. First to contradict (0 = male; 1 = female)	.47	.50	.43***	.23†

Note:  $n = 60$ ; †  $p < .10$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

However, among the 29 pairs randomly assigned to the art condition, the female was the first to make a suggestion in 18 (62%) of the pairs, and the male was the first to make a suggestion in 11 (38%) of the pairs,  $\chi^2(1) = 6.61, p < .01$ . More importantly, we used binary logistic regression to determine if task framing affected leadership emergence behaviors in the dyads. In order to do this, we regressed the dependent variable (first to make a suggestion; 0 = male, 1 = female) on the independent variable (task frame condition; 0 = Building Project, 1 = Art Project) and found a positive relationship,  $B = 1.39, SE = .55, odds-ratio = 4, z = 2.52, p = .012$ ; Nagelkerke  $R^2 = .14, \chi^2(1) = 6.73, p < .01$ , which indicates that when the task framing condition changed from Building Project to Art Project, females became more likely to be the first to suggest. Put another way, when the task framing condition changed from Art Project to Building Project, males became more likely to be the first to suggest.

*First to contradict partner.* Among the 31 pairs randomly assigned to the building condition, the male was the first to contradict his partner in 23 (75%) of the pairs, and the female was the first to contradict her partner in 8 (25%) of the pairs. However, among the 29 pairs randomly assigned to the art condition, the female was the first to contradict her partner in 20 (69%) of the pairs, and the male was the first to contradict his partner in 9 (31%) of the pairs,  $\chi^2(1) = 11.24, p < .01$ . More importantly, using binary logistic regression, we regressed the dependent variable (first to contradict partner; 0 = male, 1 = female) on the independent variable (task frame condition; 0 = Building Project, 1 = Art Project) and found a positive relationship between the two variables,  $B = 1.85, SE = .57, odds-ratio = 6.39, z = 3.23, p < .001$ ; Nagelkerke  $R^2 = .23, \chi^2(1) = 11.58, p < .001$ , which indicates that when the task framing condition variable changed from Building Project to Art Project, females became more likely to be the first to contradict their partner. In other words, when the task framing condition changed from Art Project to Building Project, males became more likely to be the first to contradict their partner.

In sum, we found that the framing of the task significantly impacted patterns of emergent leadership behaviors because the likelihood that the male or female partner would be the first to make a suggestion and to contradict their partner was dependent on whether the paper-folding task was framed as a Building Project or an Art Project. Specifically, males were more likely to both initiate and attempt to influence in the building condition relative to the art condition. Furthermore, females were more likely to both initiate and attempt to influence in the art condition relative to the building condition.

While these results provide evidence for the idea that task framing can affect leadership emergence (Hypothesis 1), there are limitations to Study 1. Specifically, we proposed that perceptions of competence are the reason task framing may affect leadership emergence (Hypothesis 2) but have yet to test for this mechanism. Study 2 was designed to address this issue directly.

Furthermore, while coders coded for leadership emergence behaviors that are crucial in determining leadership emergence (Bass, 1981; Bass, 1990; Geier, 1967; Kent & Moss, 1994; Van Vugt, 2006), we do not know if the members of the dyads perceived the individual who displayed the leadership emergence behaviors to actually be the leader. For instance, research has found that individuals are biased in their evaluations of competent women (Heilman, Wallen, Fuchs, & Tamkins, 2004), the contribution of women in teams (Heilman & Haynes, 2005), and are even biased in their perception and encoding of female leadership behaviors (e.g., Johnson, Murphy, Zewdie, & Reichard, 2008; Scott & Brown, 2006). This literature suggests that even if the females in Study 1 displayed agentic leadership behaviors in the Art Project condition relative to the Building Project condition, it is possible they were not perceived to be the leader by the individuals in the dyad. Study 2 was designed to address this issue.

### 3. Study 2

While Study 1 examined how task framing affects leadership emergence through the perspective of external observers, Study 2 examines the influence of framing on leadership emergence through the perspective of the dyad members themselves. Specifically, we investigate how framing a weaving task as masculine (i.e., Knot-Tying Task) or feminine (i.e., Hair-Braiding Task) may influence leadership emergence in mixed-gender dyads as perceived by the dyad members on a frequently used and validated leadership emergence scale. We expect that males will be rated more highly in leadership emergence when the task is framed as masculine rather than feminine. Furthermore, we expect that females will be rated more highly in leadership emergence when the task is framed as feminine rather than masculine.

Study 2 will also attempt to determine the underlying process by which this effect may occur. Specifically, we test whether task framing affects leadership emergence through perceived competence. Finding this result would be evidence that the theory of expectation states can provide an explanation regarding why task framing influences leadership emergence.

#### 3.1. Methodology

##### 3.1.1. Participants

Eighty-eight participants (44 males, 44 females) from a public West Coast University participated in the study in exchange for \$8. Each participant was randomly paired with another participant of the opposite sex. Thus, we had 44 mixed-gender dyads (i.e., male–female pairs).

##### 3.1.2. Procedure

Participants were brought into a room where they first read and signed a consent form for the “Teamwork Study”. Next, males and females were randomly assigned to mixed-gender dyads, were introduced to each other, and left alone for approximately 1 min at a table while the researcher went to prepare the experiment. Participants were then asked to sit at two computer terminals separated by a partition for privacy, where they were given a preview of the weaving task they would be working on with their partners. Both partners were randomly assigned to the same condition and the task was labeled either *Knot-Tying Task* or *Hair-Braiding Task* based on

the condition. Following the preview of the task on the computer screen, participants filled out perceived competence measures regarding both themselves and their partner for the group task.

After completing the first survey, participants were asked to sit at a semi-circle table with their partner. Participants were presented a folder with an instruction sheet for a weaving task (identical to the task preview they had just seen on the computers). The task was clearly labeled as Knot-Tying Task or Hair-Braiding Task at the top of the instructions depending on condition, but remained identical in all other aspects. The task consisted of one instruction sheet, and one four-foot piece of string. Participants were given 7 min to complete the task. Upon the conclusion of the 7 min, the participants were asked to return to their computer terminals to complete a second survey with items regarding leadership emergence, a manipulation check, demographics, and presented a debriefing paragraph.

### 3.1.3. Independent variable

*Task framing condition.* Participant pairs were randomly assigned to one of two conditions: Knot-Tying ( $n=22$ ) or Hair Braiding ( $n=22$ ). In the Knot-Tying condition, the instruction sheet was labeled Knot-Tying Task. In the Hair Braiding condition, the instruction sheet was labeled Hair-Braiding Task. This task frame has been used in previous research (Bosson et al., 2005). The weaving task itself was based on a “two-string flat braid” that can be used to create items such as bracelets or keychains. It involves 10 steps that remained constant between conditions (e.g., Pull a loop of *string A* through the loop you created with *string B*).

### 3.1.4. Dependent variables

As this study follows a two-sided reciprocal standard dyadic design and utilizes a between-dyad treatment variable, the following dependent variables will also be constructed at the dyadic unit of analysis if justifiable using intraclass correlation coefficients (see Kenny, Kashy, & Cook, 2006). The intraclass correlation coefficient (ICC 1) can be used as a measure of nonindependence and interrater reliability (Shrout & Fleiss, 1979). If ICC 1 values in these studies are above the cutoff value of 0.12 (James, 1982; Yee, Yeung, & Cheng, 2008) and are statistically significant (using an alpha value of 0.20; see Myers, 1979), then the dyad must be treated as the unit of analysis because scores within the dyad are linked (i.e., nonindependent; Kenny & Judd, 1986; Kenny, 1996).

*Perceived competence.* Participants indicated both their own perceived competence (3 items; e.g., “I will be competent at the task”) and their partner’s perceived competence (3 items; e.g., My partner will be competent at the task) regarding the task using 7-point Likert scales (1 = not at all; 7 = very much so) from Heilman and Haynes (2005). Due to the fact that the dyad is the unit of analysis in this study, we used these items to form a *dyadic perceived competence* score. In order to do this, we first created a perceived male competence score ( $M=4.28$ ,  $SD=1.17$ ;  $ICC\ 1=.30$ ,  $p=.02$ ) by averaging the male’s ratings of himself ( $\alpha=.92$ ), and the female’s ratings of the male ( $\alpha=.90$ ). Next we created a perceived female competence score ( $M=4.83$ ,  $SD=.96$ ;  $ICC\ 1=.15$ ,  $p=.16$ ) by averaging the female’s ratings of herself ( $\alpha=.88$ ), and the male’s ratings of the female ( $\alpha=.87$ ). Finally, to determine the dyadic perceived competence score we subtracted the perceived male competence score from the perceived female competence score. A difference variable was permissible because we are conceptually testing for gender differences in the dependent variable within dyads as opposed to between dyads (see Kenny et al., 2006). Thus, scores for each dyad ranged from  $-6$  (unanimous perceptions that the male was competent and the female was not) to  $6$  (unanimous perceptions that the female was competent and the male was not).

*Leadership emergence.* Participants were asked to rate both their own leadership emergence (5 items; e.g., “The amount of leadership you exhibited during the task”) and their partner’s leadership emergence (5 items; e.g., “The amount of leadership your partner exhibited during the task”) on items from the General Leadership Impression (GLI) Scale (Cronshaw & Lord, 1987; Lord et al., 1984; Smith & Foti, 1998) using 7-point Likert scales (1 = very low; 7 = very high). Due to the fact that the dyad is the unit of analysis in this study, we used these items to create a *dyadic leadership emergence* score. In order to do this, we first created a *male leadership emergence* score ( $M=4.28$ ,  $SD=1.15$ ;  $ICC\ 1=.46$ ,  $p<.001$ ) by averaging the male’s ratings of himself ( $\alpha=.96$ ), and the female’s ratings of the male ( $\alpha=.92$ ). Next we created a *female leadership emergence* score ( $M=4.58$ ,  $SD=.88$ ;  $ICC\ 1=.28$ ,  $p=.04$ ) by averaging the female’s ratings of herself ( $\alpha=.93$ ), and the male’s ratings of the female ( $\alpha=.92$ ). Finally, to determine dyadic leadership emergence score, we subtracted the male leadership emergence score from the female leadership emergence score. Thus, scores for each dyad ranged from  $-6$  (unanimous agreement that the male emerged as the leader and the female did not) to  $6$  (unanimous agreement that the female emerged as the leader and the male did not).

*Manipulation check.* Participants indicated both the degree to which their gender group is stereotyped to be good at the task (3 items; e.g., “individuals in my gender group are stereotyped to be good at this task”) and the degree to which their partner’s gender group is stereotyped to be good at the task (3 items; e.g., “Individuals in my partner’s gender group are stereotyped to be good at this task”) using 7-point Likert scales (1 = not at all; 7 = very much so) based on Deaux and Emswiller (1974). Due to the fact that the dyad is the unit of analysis in this study, we used these items to create a *dyadic perceived gender-type of task* score. In order to do this, we first created a “perceived male-type task score” ( $M=3.65$ ,  $SD=1.18$ ;  $ICC\ 1=.16$ ,  $p=.15$ ) by averaging the male’s ratings of the degree to which they believe males are stereotyped to be good at the task ( $\alpha=.91$ ) and the female’s ratings of the degree to which they believe males are stereotyped to be good at the task ( $\alpha=.87$ ). Next we created a “perceived female-type task score” ( $M=4.07$ ,  $SD=1.08$ ;  $ICC\ 1=.13$ ,  $p=.19$ ) by averaging the female’s ratings of the degree to which they believe females are stereotyped to be good at the task ( $\alpha=.71$ ) and the male’s ratings of the degree to which they believe females are stereotyped to be good at the task ( $\alpha=.89$ ). Finally, to determine the dyadic perceived gender-type of task, we subtracted the perceived male-type task score from the perceived female-type task score. Thus, scores for each dyad ranged from  $-6$

**Table 2**

Study 2 descriptive statistics and correlations among task frame condition and outcome variables.

Variable	M	SD	1	2	3
1. Task frame condition (0 = Building; 1 = Art)	.50	.51	–		
2. Manipulation check	.42	1.73	.63***	–	
3. Perceived competence	.55	.90	.52***	.33*	–
4. Leadership emergence	.30	1.77	.34*	.36*	.52***

Note: *n* ranged from 37 to 44; \*  $p < .05$ , \*\*\*  $p < .001$ .

(unanimous belief that the task is male-typed and not female-typed) to 6 (unanimous belief that the task is female-typed and not male-typed).

### 3.2. Results and discussion

#### 3.2.1. Preliminary analysis

Descriptive statistics and correlations are listed in Table 2.

**Manipulation check.** Independent samples *t*-tests revealed that males were more greatly stereotyped to be good at the task by the dyad in the Knot-Tying condition ( $M = -.58$ ,  $SD = 1.17$ ) relative to the Hair-Braiding condition, ( $M = 1.58$ ;  $SD = 1.54$ ),  $t(39) = 4.98$ ,  $p < .001$ . Put another way, females were more greatly stereotyped to be good at the task in the dyad in the Hair-Braiding condition relative to the Knot-Tying condition. These results suggest that the manipulation was successful because the Knot-Tying Task was viewed as relatively masculine while the Hair-Braiding Task was viewed as relatively feminine.

#### 3.2.2. Main analysis

**Leadership emergence.** Independent samples *t*-tests revealed that males were rated as greater in leadership emergence by the dyad in the Knot-Tying condition ( $M = -.32$ ,  $SD = 1.44$ ) relative to the Hair-Braiding condition ( $M = .86$ ,  $SD = 1.89$ ),  $t(38) = 2.20$ ,  $p = .03$ . Put another way, females were more likely to be rated as greater in leadership emergence by the dyad in the Hair-Braiding condition relative to the Knot-Tying condition.<sup>1</sup>

**Mediation analysis.** In order to test whether perceived competence mediates the effect of task framing condition on leadership emergence (Hypothesis 2; see Fig. 1), we used the statistical mediation procedure outlined by Baron and Kenny (1986). Firstly, we regressed leadership emergence on the task frame condition (dummy coded: 0 = Knot-Tying; 1 = Hair-Braiding) and found a significant positive relationship between the two variables,  $B = 1.18$ ,  $SE B = .54$ ,  $t(38) = 2.20$ ,  $\beta = .34$ ,  $p = .03$ ;  $R^2 = .11$ ,  $F(1, 38) = 4.83$ ,  $p = .03$ . Secondly, we regressed perceived competence on task frame condition and also found a significant positive relationship between the two variables,  $B = .92$ ,  $SE B = .23$ ,  $t(42) = 3.95$ ,  $\beta = .52$ ,  $p < .001$ ;  $R^2 = .27$ ,  $F(1, 42) = 15.61$ ,  $p < .001$ . Finally, we regressed leadership emergence on both perceived competence and task frame condition. We found that perceived competence remained significantly related to leadership emergence,  $B = .95$ ,  $SE B = .33$ ,  $t(37) = 2.90$ ,  $\beta = .49$ ,  $p < .01$ , while task frame condition was no longer significantly related to leadership emergence,  $B = .22$ ,  $SE B = .59$ ,  $t(37) = .37$ ,  $\beta = .06$ ,  $p = .71$ ;  $R^2 = .28$ ,  $F(2, 37) = 7.08$ ,  $p < .01$ . Nonparametric bootstrapping analyses (Preacher & Hayes, 2004; Preacher, Rucker, & Hayes, 2007) using 5000 bootstrap samples confirmed that perceived competence conveyed the indirect effects of task frame condition on leadership emergence, 95% CI [0.378, 1.761].

Study 2 provides further evidence that task framing affects leadership emergence. Specifically, while using a new task, we conceptually replicate the results of Study 1 by finding that framing a task as masculine (i.e., Knot-Tying) caused males to exhibit greater leadership emergence relative to when the task was framed as feminine (i.e., Hair-Braiding). Moreover, females were more likely to emerge as leaders when the task was framed as feminine (i.e., Hair-Braiding) relative to masculine. In addition, a manipulation check verified that the task frame indeed manipulated the perceived gender type of the task.

In this study, we utilized a validated and frequently used leadership emergence scale (Cronshaw & Lord, 1987; Lord et al., 1984; Smith & Foti, 1998) that measured perceptions of leadership emergence from the perspective of the dyad members. Importantly, we find that the mechanism through which task framing effects occurred was perceived competence. In other words and in line with expectation states theory, task framing affected the relative perceptions of competence in the dyad, which in turn affected leadership emergence.

<sup>1</sup> This significant difference between difference scores represents an interaction—task framing affected leadership emergence as a function of gender (see Kenny et al., 2006). To demonstrate that our results are not an artifact of difference scores, we ran a mixed-model ANOVA (i.e., a multilevel modeling technique that can be used to analyze dyadic data; see Kenny et al., 2006) with task framing condition as a between-dyad factor (knot-tying vs. hair-braiding), gender as a within-dyad factor (2 levels: male vs. female), and leadership emergence score (the male and female leadership emergence scores prior to taking the difference) as the dependent variable. This test revealed no significant main effects of task framing condition,  $F(1, 38) = 1.29$ ,  $p > .26$ ,  $\eta_p^2 = .03$ , and no significant main effect of gender,  $F(1, 38) = 1.04$ ,  $p > .31$ ,  $\eta_p^2 = .03$ . Importantly, this analysis revealed a significant task framing condition  $\times$  gender interaction,  $F(1, 38) = 4.83$ ,  $p = .03$ ,  $\eta_p^2 = .11$ , thus replicating the difference score analysis.

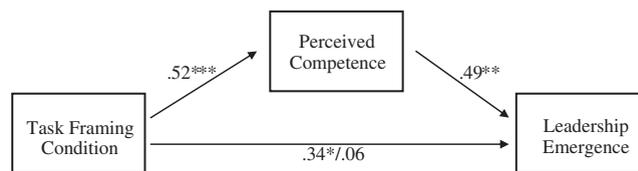


Fig. 1. Perceived competence mediating the effect of task framing condition on leadership emergence. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

#### 4. General discussion

In two studies, we found that task framing affected leadership emergence in mixed-gender dyads. Specifically, in Study 1 we found that males were more likely to exhibit leadership emergence behaviors when tasks were framed as masculine (i.e., Building Project) relative to feminine (i.e., Art Project). Moreover, females were more likely to exhibit leadership emergence behaviors when tasks were framed as feminine relative to masculine. In Study 2, we conceptually replicate these results using a different activity (i.e., a weaving task framed as Knot-Tying or Hair-Braiding) and a frequently used leadership emergence scale that measures leadership emergence from the perspective of the dyad (Cronshaw & Lord, 1987; Lord et al., 1984; Smith & Foti, 1998). We also demonstrate that the task framing manipulation was indeed varying people's perceptions of the task gender-type (using the manipulation check).

In addition, we found in Study 2 that task framing affects leadership emergence because of changes in relative perceived competence. These results are consistent with expectation states theory. That is, task framing affected perceptions of competence in the dyad, which in turn affected leadership emergence. This suggests that task framing as masculine or feminine led to either the male or female gender being used as a social hint for competence that dyad members utilized to form expectation states (Ridgeway & Bourg, 2004). Our results demonstrate that these expectation states (i.e., perceptions of competence) are what led to gender differences in leadership emergence in the mixed-gender dyad.

Importantly, while our task framing manipulation only involved gender stereotypes, our results may theoretically generalize beyond gender. Specifically, expectation states theory predicts that gender differences in leadership emergence caused by perceptions of competence should have similar effects in other domains (Ridgeway & Bourg, 2004). Thus, because we have evidence that expectation states theory can explain the effects of task framing on leadership emergence in mixed-gender dyads, it is plausible that this effect is generalizable to other status or task characteristics (e.g., Berger et al., 1986; Driskell, Olmstead, & Salas, 1993) that provide information on competence (e.g., education level, profession, clothing, etc.). Thus, framing tasks may have the potential to affect leadership emergence among multiple social identities and groups.

##### 4.1. Theoretical and managerial implications

Our findings provide a theoretical contribution in connecting the framing literature (e.g., Chong & Druckman, 2007; Liberman et al., 2004; Small et al., 2007; Stone et al., 1999; Tversky & Kahneman, 1981) with the leadership emergence literature (e.g., Lord et al., 1984; Riggio, Riggio, Salinas, & Cole, 2003; Turetgen, Unsal, & Erdem, 2008), two disparate and important areas of research. This link is important because there has been a recent resurgence in the view that individual differences and traits (e.g., extraversion, conscientiousness, neuroticism, etc.) can explain much of the variance in the emergence of leaders in human groups (Berson et al., 2006; Judge et al., 2002), with one study suggesting that 59% of the variance in leadership emergence is trait-based (Zaccaro, Foti, & Kenny, 1991). Our research draws attention to the power of the situation in influencing emergent leadership. That is, framing may function to increase the "psychological strength" of the situation (Snyder & Ickes, 1985), where psychologically strong situations are situations with cues present that provide guidance to the behaviors of individuals and traits play a lesser role in determining behaviors (Kalma, Visser, & Peeters, 1993).

Moreover, in addition to demonstrating that framing has consequences for leadership emergence, we demonstrate that framing can affect expectation states (i.e., individuals' perceptions of competence of themselves or their group members). For instance, past research in expectation states theory suggests that individuals' expectation states can be influenced by group members' task cues (i.e., displayed behaviors that imply task skills and abilities; Driskell et al., 1993). We demonstrate in these studies that framing is another means through which expectation states can be altered. That is, as frames change, the social hints that indicate task competence will also shift.

These findings also contribute to the gender/sex and leadership literature (e.g., Carbonell, 1984; Eagly & Karau, 1991; Lips & Keener, 2007; Megargee, 1969; Ritter & Yoder, 2004; Wentworth & Anderson, 1984) by demonstrating that task framing moderates the relationship between gender and leadership emergence. That is, while males generally emerge as leaders relative to females (Eagly & Karau, 1991), we find that this relationship changes as a function of task framing. Furthermore, results in this literature have been mixed with regard to whether the gender type of the task moderates the relationship between gender and leadership emergence (e.g., Goktepe & Schneider, 1989; Kent & Moss, 1994; Kolb, 1997; Megargee, 1969; Moss & Kent, 1996; Schneider & Bartol, 1980; Wentworth & Anderson, 1984). Our results provide some evidence that the gender type of the task may have inconsistently moderated the effects of gender on leadership emergence because the tasks used in past studies, while masculine or feminine in content, may not have been framed in a sufficiently gender stereotypic manner to garner consistent results.

While our findings suggest that expectation states theory is operant, the effects are consistent with other important theories. For instance, implicit leadership theories (Lord, Brown, Harvey, & Hall, 2001; Lord, De Vader, & Alliger, 1986; Lord & Maher, 1991) argue

that individuals are more likely to perceive a leader if there is a match between a target individual and the perceiver's mental representation of a leader. Thus, framing a task may alter individuals' conceptions of a leader (e.g., male leader schema in masculine tasks; female leader schema in feminine tasks), which may in turn affect whether male or female is perceived as a social hint for competence, which ultimately affects leadership emergence.

Furthermore, as we have evidence that stereotypes were activated in our study (i.e., the manipulation check), it appears that stereotype threat (e.g., [Steele & Aronson, 1994](#)) and stereotype boost (e.g., [Shih, Ambady, Richeson, Fujita, & Gray, 2002](#)) theories are consistent with our findings. Specifically, individuals may have perceived themselves and their partners as greater in competence when a positive stereotype was applicable and less competent when a negative stereotype was applicable, ultimately affecting leader emergence in accordance with the valence of activated stereotypes. Future studies may consider examining these effects in greater detail and elucidate the relationships between stereotypes, social identity, and expectation states.

The finding that task framing affects leadership emergence behaviors may have important implications for managers and leaders in organizations. While task content and characteristics are relatively difficult to change, task framing is quite malleable which makes it a tool with great utility for managers. For instance, a manager may want to help develop certain employees into organizational leaders and may consider using task framing as a tool to trigger leadership emergence behaviors in that employee when he or she is engaged in team tasks. If a manager does not wish to actively use task framing, at the very least, they should be aware of the way in which they frame projects to teams as they could be inadvertently affecting leadership emergence and putting certain social groups at a disadvantage.

#### 4.2. *Limitations and future research directions*

Our studies examined how task framing using gender stereotypes affected the leadership emergence of mixed-gender dyads. Expectation states theory predicts that there exist other status cues beyond gender that might affect leadership emergence such as race, sexuality, occupation, etc. Future research may want to consider examining task framing using other status cues. For example, it has been found that Asians are evaluated more positively when identified as engineers relative to sales people ([Sy et al., 2010](#)). Based on this research, a mixed-race group could be given a task framed as an engineering activity as compared to a control activity to determine if these effects extend to the domain of race. Studies like this would allow for empirical evidence of the generalizability of the effects of task framing on leadership emergence. Furthermore, as our study examined leadership emergence among dyads, future research will want to explore the influence of framing on leadership emergence in groups of three or more.

Other future research may consider drawing from the social identity theory of leadership in testing whether group identification moderates the effects of task framing on leadership emergence. Specifically, this area of research has demonstrated that as individuals in a group become more highly identified with the group, leadership emergence becomes increasingly based on prototypicality (i.e., the degree to which individuals are congruent with ingroup norms and characteristics; [Hogg, Hains, & Mason, 1998](#); [Hogg, 2001](#); [Hogg et al., 2006](#)). Thus, it is possible that task framing may have a decreased effect on leadership emergence among high identification groups but a greater effect on low identification groups.

Interestingly, we believe that while group identification may moderate the relationship between task framing and leadership emergence, it might not moderate the relationship between task framing and perceived competence. Thus, a moderated path model could be used to examine whether task framing could directly affect perceived competence, while perceived competence could, in turn, affect leadership emergence as a function of group identification (i.e., a Direct Effect and Second Stage Moderation Model; [Edwards & Lambert, 2007](#)). Researchers might test these ideas through experimentally manipulating both group identification and task frames while measuring perceived competence and leadership emergence. Alternatively, researchers could measure group identification in cross-sectional and longitudinal studies using leadership emergence study paradigms.

Another interesting potential moderator for these effects may be blatancy of the framing. For instance, research has found that blatant stereotype activation can lead to a reactance response in leadership ([Hoyt, Johnson, Murphy, & Skinnell, 2010](#)). Thus, we might find that framing a task as masculine or feminine in a blatant manner (e.g., Building Project for Males vs. Art Project for Females) could lead to a reactance response (as opposed to assimilation response) whereby men or women may be more likely to become leaders in the opposite conditions to our studies to prove that their gender group is not inferior to the opposing gender group.

### 5. Conclusion

In sum, while much research in leadership emergence has focused on individual differences and traits as predictors (e.g., [Berson et al., 2006](#); [Judge et al., 2002](#)), these studies elucidate the power of the situation in explaining leadership emergence. Specifically, we demonstrate that the framing of a task given to a mixed-gender dyad can affect whether males or females emerge as leaders. Given these effects, we expect that there will be much future research in examining how this subtle, yet powerful manipulation can affect leadership emergence and believe these studies will serve as a foundation for future research in this domain.

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