

RESEARCH REPORT

The Hierarchical Face: Higher Rankings Lead to Less Cooperative Looks

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In 3 studies, we tested the hypothesis that the higher ranked an individual's group is, the less cooperative the facial expression of that person is judged to be. Study 1 established this effect among business school deans, with observers rating individuals from higher ranked schools as appearing less cooperative, despite lacking prior knowledge of the latter's actual rankings. Study 2 then experimentally manipulated ranking, showing that the effect of rankings on facial expressions is driven by context rather than by individual differences *per se*. Finally, Study 3 demonstrated that the repercussions of this effect extend beyond the perception of cooperativeness to tangible behavioral outcomes in social interactions. Theoretical and practical implications of this phenomenon are discussed.

Keywords: rankings, cooperativeness, facial expressions

Whether we are following a sports team, deciding which college to attend, making an investment decision, or even doing something as simple as looking up a service on Google, rankings are a highly relevant factor in our judgments. This comes as no surprise, given society's seeming obsession with placing organizations on pedestals of comparison. From leadership structure within firms to the *Fortune* 500 listing of multinational corporations, rankings are ubiquitous in our modern society, no doubt because they play the consequential role of establishing a pecking order within and among organizations. Yet, although past literature has explored both the beneficial and deleterious effects of rank on the individual's thoughts, attitude, and behavior (e.g., Fiske, Cuddy, Glick, & Xu, 2002; Fiske, Xu, Cuddy, & Glick, 1999; Garcia & Tor, 2007; Garcia, Tor, & Gonzalez, 2006; Keltner, Van Kleef, Chen, & Kraus, 2008; Russell & Fiske, 2008), we have yet to understand how rankings influence perceptions of cooperativeness—a crucial ingredient in a host of organizational practices, such as decisions to maximize joint gains and build collaborative ventures (Kuhlman & Marshello, 1975; Lin, Hung, & Chiu, 2008; Rosenstein, 1985; Smith, Carroll, & Ashford, 1995; Swierczek, 1994; Widaman & Kagan, 1987; Williamson, 1993).

In the present analysis, we sought to explore whether organizational rankings can spill over into facial expressions of coopera-

tiveness. In three studies, we examined how rank affects the way others perceive an individual's facial expressions of cooperativeness, whether this effect is driven by context or individual differences, and how such perception influences observers' behavior toward the judged individual in social interactions.

Rankings Affect Cooperative Behavior

Rankings, as a reflection of relative standing, highly influence the degree of social comparison that takes place among individuals and groups (Garcia & Tor, 2007; Garcia et al., 2006; Poortvliet, Janssen, Van Yperen, & Van de Vliert, 2009). These social comparison processes not only fuel the motivation to compete (Festinger, 1954) but also potentially impede cooperative behavior (e.g., Garcia & Tor, 2007; Garcia, Tor, Bazerman, & Miller, 2005; Tajfel, Billig, Bundy, & Flament, 1971).

At the organizational level, social comparison concerns diminish cooperative behavior in the proximity to a standard, such as the heralded Number 1 rank, or any other qualitative threshold (Garcia & Tor, 2007; Garcia et al., 2006). For example, in a simulation of real-life joint ventures among *Fortune* 500 companies, Garcia et al. (2006) asked participants to imagine that they were the chief executive officer (CEO) of a company deciding whether to form a joint venture with a rival company. Participants were then given a choice between entering a more mutually beneficial joint venture (6% increase in profits for own and rival's companies) or no collaboration associated with smaller gains on both sides (5% profit gain for own company and 1% profit gain for rival company). A significant majority of participants went with the latter choice when both companies' ranks were near the top Number 1 rank, compared with when they were intermediately ranked.

Similarly, Poortvliet et al. (2009) found that individuals' cooperation intentions were lower at high ranks than at intermediate ranks. In that experiment, the researchers gave participants false feedback about their relative standing on a winter survival exercise (Johnson & Johnson, 2000) that the participants had just com-

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pleted. These participants were, subsequently, significantly less willing to cooperate with an exchange partner when both of them were highly ranked, compared with when they were intermediately ranked. Taken together, Garcia et al.'s (2006) and Poortvliet et al.'s (2009) results demonstrate how social comparison processes and, thus, cooperative decisions are highly contingent on both organizational rank and where we stand relative to a coveted yardstick.

Decision making and cooperative intentions are, nonetheless, not the only aspects affected by rankings. For example, Keltner et al. (2008) argued that our behavior in groups is also subject to the same influence. By reflecting existing power differentials, rankings have the potential to cause individuals to behave more individually, with less regard for the group's "cooperative, smooth functioning" (Keltner et al., 2008, p. 18). Furthermore, those in powerful positions have a greater tendency to exhibit more self-centered behaviors, such as disinhibited action, risk taking, and self-serving behavior (Keltner, Gruenfeld, & Anderson, 2003; Keltner et al., 2008).

Thus far, the literature has established that high rankings can inhibit cooperative decisions, intentions, and behavior of the ranked individual (Garcia et al., 2006; Keltner et al., 2003, 2008; Poortvliet et al., 2009). We build on this past research by exploring whether rankings also spill over into nonverbal appearances of cooperativeness, specifically that of facial expressions, that are perceived by observers.

Facial Expressions as Indicative of Psychological State

One telltale indicator of people's state of mind or personality is often found in their facial expressions. When it comes to predicting social characteristics from nonverbal cues, evaluating facial expressions produces a high agreement between what is perceived in the eyes of the beholder and the expresser's actual intentions, personality, and experiences (Albright, Kenny, & Malloy, 1988; Ambady, Hallahan, & Rosenthal, 1995; Ambady & Rosenthal, 1992, 1993; Todorov, Mandisodza, Goren, & Hall, 2005; Willis & Todorov, 2006). Ambady and Rosenthal (1993) have previously shown that third parties can predict teaching evaluations on the basis of only thin slices of nonverbal expressions. Similarly, in the political arena, inferences of competency based on politicians' faces significantly predicted the winning candidate in the U.S. 2004 congressional elections with 70% accuracy (Todorov et al., 2005). These findings reinforce prior research that has shown high levels of agreement between strangers' ratings of individuals and the self-reports of the individuals themselves on a variety of dimensions (Albright et al., 1988; Ambady et al., 1995; Ambady & Rosenthal, 1992, 1993; Todorov et al., 2005; Willis & Todorov, 2006). Thus, facial expressions prove to be highly reliable and accurate windows into people's state of mind.

Given that past research has demonstrated that individuals' social power and status can influence their facial expressions of different emotional states (Carney, Hall, & LeBeau, 2005; Mast & Hall, 2004), we therefore similarly expect that rankings could also spill over into facial expressions of cooperativeness. In short, because high rankings tend to impede cooperative feelings (Garcia & Tor, 2007; Garcia et al., 2006; Poortvliet et al., 2009) and such psychological states can be captured in facial expressions (Ambady et al., 1995; Ambady & Rosenthal, 1992, 1993; Todorov et

al., 2005; Willis & Todorov, 2006), we predicted that the higher ranked the individual's group is, the more likely the individual will display less cooperative facial expressions, as judged by independent observers.

Overview

In a series of three studies, we tested the specific hypothesis that the higher ranked an individual's group (or organization) is, the less cooperative the facial expressions of the individual appear to others. This effect, we propose, does not lie solely in the eyes of the beholder but directly affects the facial expressions of the ranked individual. Furthermore, we suggest that it is driven by context and elicits different conduct in social interactions. Study 1 investigated this hypothesized relationship between rankings and cooperative facial expressions in business school deans. Study 2 experimentally manipulated rankings to test whether this effect of rankings on cooperative facial expressions is context dependent and malleable, arising as a function of the situation rather than from self-selection of cooperative people to lower ranks, *per se*. Study 3 was designed to extend the phenomenon beyond its perceptual implications, showing how it further influences the observer's behavioral intentions in social interactions.

Study 1

Method

This study tested the hypothesis that business school rankings are significantly predictive of cooperative facial expressions in business school deans. We predicted that the higher the business school's rank, the less cooperative the dean would appear to an independent observer. Objective third-party U.S. News and World Report (2010) rankings of business schools were used to show how existing real-world rankings implicitly affect our expression and perception of cooperative looks.

Participants. Thirty-seven University of Michigan (UM) undergraduates and alumni (27% male) volunteered to participate in our online survey. They were recruited through an e-mail solicitation, of which the response rate was approximately 20%. Only data from those who successfully completed the entire survey of all the questions were retained for analysis, leaving a final sample size of 35. From our manipulation check, none of the participants successfully identified any of the deans from the photographs presented. Hence, we were able to retain all 35 completed survey responses for analysis.

Photographs. Photographs of business school deans were obtained from their faculty profile pages on the business school websites. The U.S. News and World Report (2010) top 20 ranked schools were used for this study. Three schools that had female deans were precluded to avoid a gender confound, as prior research on the effect of gender on status and facial expressions of emotions has had mixed results (Algoe, Buswell, & DeLamater, 2000; Carney et al., 2005; Hall, Coats, & LeBeau, 2005; Kurzban, 2001). This selection process retained 17 male business school deans for use in the study. The photographs of the deans were cropped around the face and were presented on identical white backgrounds, such that all photographs presented were of the same size.

Procedure. Each participant was presented with 17 photographs of current male business school deans to rate. The photographs were presented one at a time, in a randomized order, following a within-subject design. Only the cropped photographs of the deans were presented. No business school identifiers, rank information, or personal identifiers were given to participants. Participants rated each of the photographed deans' cooperativeness immediately upon presentation with his photograph. The perceived cooperativeness of the deans was assessed by the question, "To what extent would you rate this individual as a cooperative person?" (1 = *not at all*, 7 = *very cooperative*).

Results and Discussion

A repeated measures analysis of variance (ANOVA) showed a significant effect of business school ranking on the deans' perceived cooperativeness, $F(9.16, 311.27) = 12.35, p < .001$. Greenhouse-Geisser values are reported, since the Mauchly's test showed a violation of the sphericity assumption, $\chi^2(135) = 189.08, p < .05$. Thus, the higher the rank of the business school, the less cooperative the dean from that school appeared to be to an independent observer. No significant differences in cooperativeness ratings were found between respondents on the basis of gender, and the pattern of results was similar for both male and female respondents. In conclusion, these results supported our hypothesis, which states that individuals from higher ranked groups would exhibit less cooperative facial expressions, compared with their lower ranked counterparts.

Nonetheless, this finding begs the question of whether the effect of rank on facial expressions of cooperativeness is due to the self-selection of less cooperative-looking people to top positions, and vice versa, or if it is driven by the context. The next study explored this issue by manipulating the rank of the photographed individuals and then obtaining ratings of these photographed targets' perceived cooperativeness from independent observers.

Study 2

Method

Earlier research, which used random assignment of participants to different rank conditions, has shown that the impact of rankings on cooperative decisions and intentions is a contextual effect, not a personality-focused, self-selection story per se (Garcia & Tor, 2007; Garcia et al., 2006; Poortvliet et al., 2009). We know, for example, in contexts where people are of different status, people generally adopt a submissive stance in the presence of a dominant other, as indicated by various sociological (e.g., Blau, 1964; Podolny, 2005) and psychological (e.g., Fiske, 1993; Snodgrass, 1992) measures of behavior and interpersonal perception. Thus, Study 2 was designed to test whether this effect of ranking on nonverbal expressions of cooperativeness is similarly driven by contextual factors. Here, we used the context to manipulate the high and low ranking of interaction partners to observe emergent differences in nonverbal expressions of cooperativeness.

More specifically, within a competitive trivia game setting, Study 2 manipulated the university affiliation of the alleged interaction partners of UM participants. Participants were told that they were competing against a student from either Yale University (UM

is in a lower rank condition) or from Washtenaw Community College (UM is in a higher rank condition). We predicted that UM students would appear more cooperative in a photograph when competing against a student they believed was from Yale University than when competing against someone they believed was from Washtenaw Community College.

Participants. Twenty-six male UM undergraduates were approached in the undergraduate library on campus to participate in the first part of our study. All participants in this first part of the study were compensated with café vouchers. This part of the study entailed obtaining photographs of students who were primed with different rankings. We included only male students, as we wanted to avoid a gender confound in establishing the relationship between contextually manipulated rankings and facial expressions of cooperativeness.

The second part of Study 2 consisted of an online survey, completed by 29 UM undergraduates and alumni (35% male) volunteers. These participants served as independent observers who were asked to rate the photographs obtained from the first part of the study. Only fully completed surveys were used in the analysis.

Procedure, Part 1: Photograph generation. In the first part of the study, research assistants approached 26 male undergraduate students at the UM undergraduate library on campus to compete in a trivia bowl against a student from a different college. Half of the participants were told that they would be competing against a visiting student from Yale University (UM participant is in the lower rank condition), and the other half were told that they would be competing against a visiting student from Washtenaw Community College (UM participant is in the higher rank condition). In both cases, the would-be competitor was actually a male confederate who was blind to the experimental condition. This confederate was the same person for all participants in both conditions.

After being introduced to the confederate as their competitor, the participants were then asked to have their photographs taken with him for "record-keeping purposes." Immediately after the photograph was taken, the participants were debriefed about the purposes of the experiment, thanked for their time, and given a café voucher as compensation. The photographs obtained were then cropped tightly around each of the participants' faces, for use in the second part of the study.

Procedure, Part 2: Photograph rating. The photographs generated in the first part of the study were used for this second part of the study, in which participants completed an online survey. In a within-subject design, each participant was presented with all 26 photographs of the male trivia bowl participants, one after another in randomized order. Only the photographs were presented, in the absence of any accompanying identification or rank information related to how the photographs were obtained. Upon presentation of each photograph, the participant immediately rated how cooperative he or she thought the individual in the picture looked on a 7-point Likert-type scale, similar to that used in Study 1. These raters were unaware of the origins of the photographs and did not identify any of the people in the photographs.

Results and Discussion

First, we obtained an average score for each participant's ratings of all the photographs in the Yale competitor condition and another

average score for all those in the Washtenaw Community College competitor condition. A repeated-measures ANOVA was then conducted on these within-subject average scores. Participants rated the photographs of UM students who had thought that they would be competing against a Yale University student as appearing more cooperative ($M = 4.38$, $SD = 0.67$), compared with those of UM students who believed that their competitor was from Washtenaw Community College ($M = 3.91$, $SD = 0.71$). These differences were significant, $F(1, 28) = 25.7$, $p < .001$, and were consistent with our hypothesis. No significant differences in cooperativeness ratings were found between respondents on the basis of gender, and the pattern of results was similar for both male and female respondents.

Thus, when representing a group of higher rank, people tend to exhibit less cooperative facial expressions, and vice versa. This study showed that the effect of rank on facial expressions is context driven, as the changes in facial expression of the target were elicited by the experimentally manipulated relative rank positions of participants, who were randomly assigned to the experimental condition. This suggests that our findings from Study 1 are likely influenced by organizational rank, more so than the self-selection of less cooperative-looking people into higher ranked organizations.

So far, these two studies have shown that higher group rankings spill over into the individual member's facial expressions of cooperativeness. Moreover, this effect is context dependent, as opposed to being strictly driven by the selection of individuals with pre-existing cooperative traits into differently ranked groups. Thus far, although we have shown the perceptual differences that arise from this phenomenon, we have yet to show whether these perceptions necessarily translate to behavior in social interactions. Motivated by this question, in the last study we attempted to demonstrate that rankings do not only lead to perceptual differences but have significant behavioral implications as well.

Study 3

Method

Study 3 aimed to demonstrate that the effects of rankings on cooperativeness do not stop at the perceptual level but can have behavioral repercussions in the social interactions between the judged target and the observer. In this between-subjects study, we varied the rank of the target and measured how observers reacted toward this target in the context of a negotiation. Negotiation scenarios provide an excellent experimental setting in which interpersonal behavioral dynamics, such as cooperation, can be empirically measured (de Dreu, Emans, van de Vliert, & Carnevale, 1994; Hilty & Carnevale, 1993; Johnson, McCarty, & Allen, 1976; Pruitt, 1983). Within such settings, cooperation constitutes an important dimension of the social exchanges taking place, which involve decisions about resource allocation and how to create value for all parties (Lax & Sebenius, 1986; Pruitt & Lewis, 1975; Raiffa, 1981; Thompson, 2009). Thus, this experimental set-up allowed us to test how the nonverbal spillover of rankings into perceptions of cooperativeness influences behavioral intentions in a negotiation.

In this study, we sought to extend previous findings on how rankings influence the target's own cooperative behavior (Garcia

et al., 2006; Keltner et al., 2003, 2008; Poortvliet et al., 2009) to how *observers'* perceptions of the target shape the former's negotiation behaviors. We predicted that the rank of the target would influence his negotiation partner's perceptions of how cooperative, collaborative, and receptive he is, and consequently, that these perceptions would affect his negotiation partner's initial offer.

Participants. One hundred fifty-four participants (37% male) who were UM undergraduates and alumni volunteered to take part in our online survey. They were recruited through an e-mail solicitation, of which the response rate was approximately 20%. After we removed incomplete surveys and one statistically significant outlier, the final sample size was 139.

Photographs. Two photographs of business school deans were randomly chosen from Study 1 for the purposes of this study, one from among the top 5 ranked schools, and the other from the bottom 5 ranked schools. Each photograph was then embedded in a mock faculty profile website design that served as the focal stimulus in the survey. Only one of the photographs was presented, at random, to each participant.

Procedure. Participants were first presented with a vignette, in which they were placed in the role of representative of a student organization. The scenario required participants to negotiate an annual budget for their student organization with a fictitious associate dean, "Robert Smith," who was acting on behalf of the Student Affairs office in their school to allocate money to different student organizations. Participants were shown a mock faculty profile webpage of Associate Dean Robert Smith, on which his photograph was presented.

Participants then answered questions about Associate Dean Smith, on the basis of their perceptions of the photograph. Cooperativeness was measured by the question, "How cooperative do you think Associate Dean Smith is?" (1 = *not cooperative*, 7 = *very cooperative*). Additionally, participants made judgments about how likely it was that the associate dean would work collaboratively with them and how receptive they thought he would be to their negotiation offer. They were also asked to state a value between \$3,000 and \$5,000 that they thought Associate Dean Robert Smith would actually approve. As a measure of the behavioral consequences of perceiving Associate Dean Smith as more or less cooperative, participants were asked to give a value (between \$3,000 and \$5,000) that they were going to request as their annual budget.

Results and Discussion

We first conducted an ANOVA on the effect of the rank manipulation on ratings of cooperativeness. The results show that the photograph of Associate Dean Smith was rated as looking less cooperative when it was a photograph of a top 5 high-ranking dean ($M = 4.39$, $SD = .94$) and more cooperative when it was a photograph of a bottom 5 low-ranking dean ($M = 4.76$, $SD = 1.01$), $F(1, 135) = 5.46$, $p < .05$, thus replicating our previous findings and serving as a manipulation check for the presented faculty profiles. Similar to Studies 1 and 2, there were no significant differences between respondents on the basis of gender, and the pattern of results was similar for both male and female respondents.

Next, we conducted regression analyses and found that, controlling for gender, participants' perceptions of cooperativeness were

significantly predictive of how likely they thought it that Associate Dean Smith would work collaboratively with them, $b = .72$, $t(136) = 11.95$, $p < .001$, and how receptive they thought Smith would be to their negotiation offer, $b = .53$, $t(136) = 7.16$, $p < .001$. From a behavioral standpoint, participants' perceptions of Smith's cooperativeness were predictive of the budget amount they thought Smith would approve, $b = .30$, $t(136) = 3.67$, $p < .001$, and this perceived approval amount predicted how much they requested for their budget, $b = .46$, $t(136) = 6.02$, $p < .001$. These results, furthermore, remained significant and in the same direction, when analyses were run without controlling for gender.

Therefore, the higher the rank of the individual's organization, the less cooperative, collaborative, and receptive he is perceived to be. This lowers the amount that others think he will accept as a negotiation offer and, correspondingly, the amount of their initial request from him.

General Discussion

Prior research has shed significant light on the role of ranking in social interactions, especially how rankings can affect cooperative decisions, intentions, and behavior (Garcia et al., 2006; Keltner et al., 2003; Poortvliet et al., 2009). Such psychological states are accurately reflected in facial expressions and are reliably picked up on by independent observers (Ambady et al., 1995; Ambady & Rosenthal, 1992, 1993; Todorov et al., 2005; Willis & Todorov, 2006). Here, we aimed to expand the previous literature with an examination of how rankings affect the perception of cooperativeness and its consequences for social interactions.

Across three studies, we demonstrated that individuals from higher ranked groups tend to display less cooperative facial expressions, as judged by an independent observer. We found this effect across multiple settings, including business school deans, quiz bowls, and negotiations (Studies 1–3, respectively), both with naturally existing and experimentally manipulated rankings. Indeed, in Study 2, we ruled out an alternate "selection effect" explanation by randomly assigning individuals to higher or lower ranked organizations and demonstrating that these differences in cooperative expressions occurred, even when relative rankings were defined by the context. Moreover, we showed that these differences in perceptions of cooperative facial expressions have implications in task-relevant social interactions (Study 3). These perceptions influence not only how globally cooperative the other party appears but also the perception of cooperation in a discrete task (e.g., budget negotiation). When individuals perceived the other party as being less cooperative, they considered the other party to be less receptive to offers and less likely to agree to higher budget amounts, thereby choosing to request a lower initial budget (Study 3).

Theoretical and Practical Implications

This research extends prior work on rankings and cooperation by demonstrating that the effects of rankings on cooperation can be transmitted through facial expressions, without making rank overtly salient in any way (i.e., without knowledge of relative rank). Previous literature has focused primarily on how the presentation of rank information activates social comparison concerns, resulting in less cooperative decisions (Garcia & Tor, 2007;

Garcia et al., 2006; Poortvliet et al., 2009), and how those at the top of naturally existing hierarchies in organizations tend to exhibit more self-centered behaviors (Keltner et al., 2003, 2008). Our studies show that these deleterious effects of rank on cooperativeness further spill over into the individual's nonverbal cues, which are not only picked up by observers but also lead them to act differently toward the individual.

By measuring cooperativeness, a highly decision-relevant state, this research makes a contribution to the broader literature on nonverbal communication. Most of the prior literature on nonverbal expression has focused on the expression of personality traits or broad emotions (e.g., Albright et al., 1988; Ambady et al., 1995; Hess & Philippot, 2007) and not on the expression of task-relevant states, values, and aptitudes (for an exception, see Todorov et al., 2005). This distinction between displays of task-relevant, integral states (emotions related to the present situation) and more general, incidental states (emotions triggered by unrelated experiences) is important, as one or the other type of display can differentially affect key interaction outcomes (see Gino & Schweitzer, 2008; Loewenstein & Lerner, 2003).

For example, in a decision or negotiation context, a nonverbal display of cooperativeness communicates knowledge important to the task at hand, sending an important signal that could overshadow a nonverbal display of extraversion or that of other personality traits. Likewise, strategic nonverbal displays of integral positive and negative emotions have been shown to have differential effects on negotiated task and relationship outcomes beyond individual differences in general positive or negative affect (Kopelman, Rosette, & Thompson, 2006). Thus, our research on how people perceive the cooperativeness of their interaction partner has implications for our understanding of how nonverbal expressions affect task-related decisions and social interactions.

From a practical standpoint, our results offer insight into how interactions between individuals from differently ranked organizations play out, such as in interfirm negotiation contexts. Our findings suggest that individuals in such intergroup negotiations may form judgments about their counterpart's cooperativeness from the latter's facial expressions and, subsequently, make inferences about their counterpart's cooperative intentions in the negotiation. These individuals will then enact different negotiation strategies (such as different levels of initial offers, as in Study 3), in accordance with these inferences. In the same vein, people might perceive information, such as a counteroffer, differently on the basis of how cooperative they perceive their counterpart to be, as the cooperativeness of the negotiation partner acts as a potential frame for how to interpret available information (e.g., Bazerman, 1990; Tversky & Kahneman, 1981).

Our findings also offer insight for interactions involving rank differentials *within* an organization. For example, intragroup interactions between leaders and followers, by definition, involve rank differentials, as taking on a leadership role or identity generally implies an increase in status and power (Barker, 1997; Bass & Bass, 2008; DeRue & Ashford, 2010). Our findings highlight that leaders need to be aware that their ranking might spill over into their facial expressions when they interact with others in the organization, affecting what others think of their cooperative intentions. This is problematic, given that developing cooperative relationships and trust between leaders and followers is an important component of many leadership development initiatives (De-

Rue & Myers, in press), not to mention that these leader–follower relationships are critical for key organizational outcomes (Gerstner & Day, 1997; Nahrgang, Morgeson, & Ilies, 2009). When followers do not perceive the leader as cooperative, they tend to be less motivated, less committed, and less open in their communication, as they do not feel that they have the opportunity to participate collaboratively in the leadership of the organization (Bennis, Benne, & Chin, 1961; Vroom & Yetton, 1973). Furthermore, prior research has demonstrated that followers can perceive their leader's personal values (e.g., Fu, Tsui, Liu, & Li, 2010) by observing certain decisions, behaviors, and other social cues (O'Reilly & Pfeffer, 2000). Our findings extend this by showing how these cues might also include the leader's nonverbal facial expressions, which followers may use to form impressions about the leader's cooperativeness.

Limitations and Future Directions

Our findings on the influence of organizational rank on perceptions of cooperativeness open the door to future research that could extend this phenomenon to various social interactions between and within organizations. For instance, future studies could examine how organizational norms can potentially contribute to the way nonverbal displays of cooperativeness are interpreted and perceived by others within the same organization. Additionally, in the present study, we focused only on perceptions of men because of well-established gender differences in nonverbal expression (Briton & Hall, 1995; Hall, 1984, 1987; Hall, Carter, & Horgan, 2000). Nevertheless, future studies could examine how rankings affect the perceptions of an even broader population, including differentially ranked women and people across various industries. This includes considering other national cultures as well, given that prior research has shown that individuals from different cultural backgrounds interpret power (such as that coming from a high rank) very differently (e.g., Kopelman, 2009).

Our studies have thus far focused on perceptions of cooperativeness in interpersonal contexts. Future research might examine how perceptions of cooperativeness are manifested in larger group contexts, particularly where intragroup and intergroup rankings must be considered in tandem. For example, subsequent studies might examine how a CEO of a highly ranked firm is perceived by the employees within the organization, as well as by other CEOs and organizations within the industry. While being higher ranked, and thus perceived as less cooperative, may be beneficial for the CEO in interactions with other CEOs and organizations, it may be detrimental for bolstering cooperation and collective effort within the firm. Research on the stereotype content model affirms this trade-off, highlighting that status leads to increased perceptions of competency but also to decreased perceptions of warmth and relational temperament (Fiske, Cuddy, & Glick, 2007; Fiske et al., 1999, 2002; Russell & Fiske, 2008). Future studies might fruitfully examine how nonverbal expressions influence cooperative tendencies at the intragroup level in these intergroup competitive settings (see Bornstein & Ben-Yossef, 1994).

Yet another direction for future research could be to examine how nonverbal displays of cooperativeness fit into the broader pattern of person perception. Competency and warmth may be characteristics that are conceptually related to perceptions of cooperativeness and, as mentioned above, prior research has demon-

strated that high status is associated with high levels of competence and low levels of warmth (Fiske et al., 2002). Future studies might further examine these perceptual trade-offs that come with high rank. For example, though fewer expressions of cooperativeness might benefit highly ranked individuals for competency reasons, it is likely to hurt them if their continued success in the relevant domain depends on others' perceptions of their likelihood to collaborate. In interdependent situations, where individuals must work together in order to succeed, fewer expressions of cooperativeness could ultimately hurt a highly ranked individual.

Conclusion

Our studies have shown that rankings spill over into facial expressions of cooperativeness, which influence others' perceptions of the individual and even how these others choose to interact with that individual. These findings contribute to the broader literatures on rankings, cooperativeness, and nonverbal expressions, as well as to practical applications for negotiations, leadership, and inter- and intragroup dynamics. Knowledge of the inverse relationship between rankings and perceived nonverbal communication of cooperativeness may help us develop an awareness of how our rank comes across in our looks, especially when interacting with others.

References

- Albright, L., Kenny, D. A., & Malloy, T. E. (1988). Consensus in personality judgments at zero acquaintance. *Journal of Personality and Social Psychology, 55*, 387–395. doi:10.1037/0022-3514.55.3.387
- Algoe, S. B., Buswell, B. N., & DeLamater, J. D. (2000). Gender and job status as contextual cues for the interpretation of facial expression of emotion. *Sex Roles, 42*, 183–208. doi:10.1023/A:1007087106159
- Ambady, N., Hallahan, M., & Rosenthal, R. (1995). On judging and being judged accurately in zero-acquaintance situations. *Journal of Personality and Social Psychology, 69*, 518–529. doi:10.1037/0022-3514.69.3.518
- Ambady, N., & Rosenthal, R. (1992). Thin slices of expressive behavior as predictors of interpersonal consequences: A meta-analysis. *Psychological Bulletin, 111*, 256–274. doi:10.1037/0033-2909.111.2.256
- Ambady, N., & Rosenthal, R. (1993). Half a minute: Predicting teacher evaluations from thin slices of nonverbal behavior and physical attractiveness. *Journal of Personality and Social Psychology, 64*, 431–441. doi:10.1037/0022-3514.64.3.431
- Barker, R. A. (1997). How can we train leaders if we do not know what leadership is? *Human Relations, 50*, 343–362. doi:10.1177/001872679705000402
- Bass, B., & Bass, R. (2008). *The Bass handbook of leadership: Theory, research, and managerial application* (4th ed.). New York, NY: Free Press.
- Bazerman, M. (1990). *Judgment in managerial decision making* (2nd ed.). New York, NY: Wiley.
- Bennis, W. G., Benne, K. D., & Chin, R. (1961). *The planning of change*. London, England: Holt, Rinehart & Winston.
- Blau, P. M. (1964). *Exchange and power in social life*. New Brunswick, NJ: Transaction.
- Bornstein, G., & Ben-Yossef, M. (1994). Cooperation in intergroup and single-group social dilemmas. *Journal of Experimental Social Psychology, 30*, 52–67. doi:10.1006/jesp.1994.1003
- Briton, N. J., & Hall, J. A. (1995). Beliefs about female and male nonverbal communication. *Sex Roles, 32*, 79–90. doi:10.1007/BF01544758
- Carney, D. R., Hall, J. A., & LeBeau, L. S. (2005). Beliefs about the

- nonverbal expression of social power. *Journal of Nonverbal Behavior*, 29, 105–123. doi:10.1007/s10919-005-2743-z
- de Dreu, C. K. W., Emans, B. J. M., van de Vliert, E., & Carnevale, P. J. (1994). Effects of gain loss frames in negotiation: Loss aversion, mismatching, and frame adoption. *Organizational Behavior and Human Decision Processes*, 60, 90–107. doi:10.1006/obhd.1994.1076
- DeRue, D. S., & Ashford, S. J. (2010). Who will lead and who will follow? A social process of leadership identity construction in organizations. *Academy of Management Review*, 35, 627–647. doi:10.5465/AMR.2010.53503267
- DeRue, D. S., & Myers, C. G. (in press). Leadership training and development in organizations. In D. V. Day (Ed.), *Oxford handbook of leadership and organizations*. Oxford, England: Oxford University Press.
- Festinger, L. (1954). A theory of social comparison. *Human Relations*, 7, 117–140. doi:10.1177/001872675400700202
- Fiske, S. T. (1993). Controlling other people: The impact of power on stereotyping. *American Psychologist*, 48, 621–628. doi:10.1037/0003-066X.48.6.621
- Fiske, S. T., Cuddy, A. J. C., & Glick, P. (2007). Universal dimensions of social cognition: Warmth and competence. *Trends in Cognitive Sciences*, 11, 77–83. doi:10.1016/j.tics.2006.11.005
- Fiske, S. T., Cuddy, A. J. C., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology*, 82, 878–902. doi:10.1037/0022-3514.82.6.878
- Fiske, S. T., Xu, J., Cuddy, A., & Glick, P. (1999). (Dis)respecting versus (dis)liking: Status and interdependence predict ambivalent stereotypes of competence and warmth. *Journal of Social Issues*, 55, 473–489. doi:10.1111/0022-4537.00128
- Fu, P. P., Tsui, A. S., Liu, J., & Li, L. (2010). Pursuit of whose happiness? Executive leaders' transformational behaviors and personal values. *Administrative Science Quarterly*, 55, 222–254. doi:10.2189/asqu.2010.55.2.222
- Garcia, S. M., & Tor, A. (2007). Rankings, standards, and competition: Task vs. scale comparisons. *Organizational Behavior and Human Decision Processes*, 102, 95–108. doi:10.1016/j.obhdp.2006.10.004
- Garcia, S. M., Tor, A., Bazerman, M. H., & Miller, D. T. (2005). Profit maximization versus disadvantageous inequality: The impact of self-categorization. *Journal of Behavioral Decision Making*, 18, 187–198. doi:10.1002/bdm.494
- Garcia, S. M., Tor, A., & Gonzalez, R. (2006). Ranks and rivals: A theory of competition. *Personality and Social Psychology Bulletin*, 32, 970–982. doi:10.1177/0146167206287640
- Gerstner, C. R., & Day, D. V. (1997). Meta-analytic review of leader-member exchange theory: Correlates and construct issues. *Journal of Applied Psychology*, 82, 827–844. doi:10.1037/0021-9010.82.6.827
- Gino, F., & Schweitzer, M. E. (2008). Blinded by anger or feeling the love: How emotions influence advice taking. *Journal of Applied Psychology*, 93, 1165–1173. doi:10.1037/0021-9010.93.5.1165
- Hall, J. A. (1984). *Nonverbal sex differences: Communication accuracy and expressive style*. Baltimore, MD: Johns Hopkins University Press.
- Hall, J. A. (1987). On explaining gender differences: The case of nonverbal communication. In P. Shaver & C. Hendrick (Eds.), *Review of personality and social psychology: Vol. 7. Sex and gender* (pp. 177–200). Newbury Park, CA: Sage.
- Hall, J. A., Carter, J. D., & Horgan, T. G. (2000). Gender differences in nonverbal communication of emotion. In A. H. Fischer (Ed.), *Gender and emotion: Social psychological perspectives* (pp. 97–117). Cambridge, England: Cambridge University Press. doi:10.1017/CBO9780511628191.006
- Hall, J. A., Coats, E. J., & LeBeau, L. S. (2005). Nonverbal behavior and the vertical dimension of social relations: A meta-analysis. *Psychological Bulletin*, 131, 898–924. doi:10.1037/0033-2909.131.6.898
- Hess, U., & Philippot, P. (Eds.). (2007). *Group dynamics and emotional expression*. Cambridge, England: Cambridge University Press. doi:10.1017/CBO9780511499838
- Hilty, J. A., & Carnevale, P. J. (1993). Black-hat/white-hat strategy in bilateral negotiation. *Organizational Behavior and Human Decision Processes*, 55, 444–469. doi:10.1006/obhd.1993.1039
- Johnson, D. W., & Johnson, F. P. (2000). *Joining together: Group theory and group skills* (7th ed.). Boston, MA: Allyn & Bacon.
- Johnson, D. W., McCarty, K., & Allen, T. (1976). Congruent and contradictory verbal and nonverbal communications of cooperativeness and competitiveness in negotiation. *Communication Research*, 3, 275–292. doi:10.1177/009365027600300303
- Keltner, D., Gruenfeld, D. H., & Anderson, C. (2003). Power, approach, and inhibition. *Psychological Review*, 110, 265–284. doi:10.1037/0033-295X.110.2.265
- Keltner, D., Van Kleef, G. A., Chen, S., & Kraus, M. W. (2008). A reciprocal influence model of social power: Emerging principles and lines of inquiry. *Advances in Experimental Social Psychology*, 40, 151–192. doi:10.1016/S0065-2601(07)00003-2
- Kopelman, S. (2009). The effect of culture and power on cooperation in common dilemmas: Implications for global resource management. *Organizational Behavior and Human Decision Processes*, 108, 153–163. doi:10.1016/j.obhdp.2008.06.004
- Kopelman, S., Rosette, A. S., & Thompson, L. (2006). The three faces of Eve: Strategic displays of positive, negative, and neutral emotions in negotiations. *Organizational Behavior and Human Decision Processes*, 99, 81–101. doi:10.1016/j.obhdp.2005.08.003
- Kuhlman, D. M., & Marshello, A. (1975). Individual differences in the game motives of own, relative, and joint gain. *Journal of Research in Personality*, 9, 240–251. doi:10.1016/0092-6566(75)90020-3
- Kurzban, R. (2001). The social psychophysics of cooperation: Nonverbal communication in a public goods game. *Journal of Nonverbal Behavior*, 25, 241–259. doi:10.1023/A:1012563421824
- Lax, D. A., & Sebenius, J. K. (1986). *The manager as negotiator: Bargaining for cooperation and competitive gain*. New York, NY: Free Press.
- Lin, C., Hung, W., & Chiu, C. (2008). Being good citizens: Understanding a mediating mechanism of organizational commitment and social network ties in OCBs. *Journal of Business Ethics*, 81, 561–578. doi:10.1007/s10551-007-9528-8
- Loewenstein, G., & Lerner, J. S. (2003). The role of affect in decision making. In R. Davidson, K. Scherer, & H. Goldsmith (Eds.), *Handbook of affective science* (pp. 619–642). New York, NY: Oxford University Press.
- Mast, M. S., & Hall, J. A. (2004). Who is the boss and who is not? Accuracy of judging status. *Journal of Nonverbal Behavior*, 28, 145–165. doi:10.1023/B:JONB.0000039647.94190.21
- Nahrgang, J. D., Morgeson, F. P., & Ilies, R. (2009). The development of leader-member exchanges: Exploring how personality and performance influence leader and member relationships over time. *Organizational Behavior and Human Decision Processes*, 108, 256–266. doi:10.1016/j.obhdp.2008.09.002
- O'Reilly, C. A., & Pfeffer, J. (2000). *Hidden value: How ordinary people can produce extraordinary results*. Boston, MA: Harvard Business School Press.
- Podolny, J. M. (2005). *Status signals: A sociological study of market competition*. Princeton, NJ: Princeton University Press.
- Poortvliet, P. M., Janssen, O., Van Yperen, N. W., & Van de Vliert, E. (2009). Low ranks make the difference: How achievement goals and ranking information affect cooperation intentions. *Journal of Experimental Social Psychology*, 45, 1144–1147. doi:10.1016/j.jesp.2009.06.013
- Pruitt, D. G. (1983). Strategic choice in negotiation. *American Behavioral Scientist*, 27, 167–194. doi:10.1177/000276483027002005

- Pruitt, D. G., & Lewis, S. A. (1975). Development of integrative solutions in bilateral negotiation. *Journal of Personality and Social Psychology*, *31*, 621–633. doi:10.1037/0022-3514.31.4.621
- Raiffa, H. (1981). *The art and science of negotiation: How to resolve conflicts and get the best out of bargaining*. Cambridge, MA: Harvard University Press.
- Rosenstein, E. (1985). Cooperativeness and advancement of managers: An international perspective. *Human Relations*, *38*, 1–22. doi:10.1177/001872678503800101
- Russell, A. M. T., & Fiske, S. T. (2008). It's all relative: Competition and status drive interpersonal perception. *European Journal of Social Psychology*, *38*, 1193–1201. doi:10.1002/ejsp.539
- Smith, K. G., Carroll, S. J., & Ashford, S. J. (1995). Intra- and interorganizational cooperation: Toward a research agenda. *Academy of Management Journal*, *38*, 7–23. doi:10.2307/256726
- Snodgrass, S. E. (1992). Further effects of role versus gender on interpersonal sensitivity. *Journal of Personality and Social Psychology*, *62*, 154–158. doi:10.1037/0022-3514.62.1.154
- Swierczek, F. W. (1994). Culture and conflicts in joint ventures in Asia. *International Journal of Project Management*, *12*, 39–47. doi:10.1016/0263-7863(94)90008-6
- Tajfel, H., Billig, M. G., Bundy, R. P., & Flament, C. (1971). Social categorization and intergroup behaviour. *European Journal of Social Psychology*, *1*, 149–178. doi:10.1002/ejsp.2420010202
- Thompson, L. (2009). *The mind and heart of the negotiator* (4th ed.). Upper Saddle River, NJ: Prentice Hall.
- Todorov, A., Mandisodza, A. N., Goren, A., & Hall, C. C. (2005, June 10). Inferences of competence from faces predict election outcomes. *Science*, *308*(5728), 1623–1626. doi:10.1126/science.1110589
- Tversky, A., & Kahneman, D. (1981, January 30). The framing of decisions and the psychology of choice. *Science*, *211*(4481), 453–458. doi:10.1126/science.7455683
- U.S. News and World Report. (2010). *2010 rankings: Best business schools*. Retrieved from <http://grad-schools.usnews.rankingsandreviews.com/best-graduate-schools/top-business-schools/mba-rankings>
- Vroom, V. H., & Yetton, P. W. (1973). *Leadership and decision-making*. Pittsburgh, PA: University of Pittsburgh Press.
- Widaman, K. F., & Kagan, S. (1987). Cooperativeness and achievement: Interaction of student cooperativeness with cooperative versus competitive classroom organization. *Journal of School Psychology*, *25*, 355–365. doi:10.1016/0022-4405(87)90037-9
- Williamson, O. E. (1993). Contested exchange versus the governance of contractual relations. *Journal of Economic Perspectives*, *7*(1), 103–108.
- Willis, J., & Todorov, A. (2006). First impressions: Making up your mind after a 100-ms exposure to a face. *Psychological Science*, *17*, 592–598. doi:10.1111/j.1467-9280.2006.01750.x

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