

Predicting Firm Success From the Facial Appearance of Chief Executive Officers of Non-Profit Organizations

Perception

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Abstract

Recent research has demonstrated that judgments of Chief Executive Officers' (CEOs') faces predict their firms' financial performance, finding that characteristics associated with higher power (e.g., dominance) predict greater profits. Most of these studies have focused on CEOs of profit-based businesses, where the main criterion for success is financial gain. Here, we examined whether facial appearance might predict measures of success in a sample of CEOs of non-profit organizations (NPOs). Indeed, contrary to findings for the CEOs of profit-based businesses, judgments of leadership and power from the faces of CEOs of NPOs negatively correlated with multiple measures of charitable success (Study 1). Moreover, CEOs of NPOs looked less powerful than the CEOs of profit-based businesses (Study 2) and leadership ratings positively associated with warmth-based traits and NPO success when participants knew the faces belonged to CEOs of NPOs (Study 3). CEOs who look less dominant may therefore achieve greater success in leading NPOs, opposite the relationship found for the CEOs of profit-based companies. Thus, the relationship between facial appearance and leadership success varies by organizational context.

Keywords

leadership, facial cues, profit, NPO, social perception

Judgments of individuals' facial appearance can predict whether they are selected as leaders (e.g., Little, Burriss, Jones, & Roberts, 2007). More striking, facial appearance may afford information not just about leaders' selection but their performance on the job as well. For example, judgments of leadership ability from photos of the faces of Chief Executive Officers (CEOs) correlate with their companies' financial performance (Rule & Ambady, 2008). Inferences of power (related to perceptions of physical dominance; see Cheng, Tracy, Foulsham, Kingstone, & Henrich, 2013) from the CEOs' faces play an important role in this relationship and apply to both male and female CEOs across various industries

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(Rule & Ambady, 2009). Similarly, judgments of how powerful law firm managing partners (MPs) look also predict their firms' profits (Rule & Ambady, 2011a), even when the judgments are made from photographs of the MPs when they were college students—on average 35 years earlier (Rule & Ambady, 2011b). Mere perceptions aside, facial features typically associated with aggression and ambition can explain the relationship between some CEOs' appearance and their firms' performance, even when controlling for company performance before the current leader assumes his or her position (Re & Rule, 2016; Wong, Ormiston, & Haselhuhn, 2011). Thus, facial characteristics that enhance perceptions of dominance, power, and aggression seem to correlate with leadership success in business. These findings align with studies on leadership style wherein leaders who behave in ways considered more dominant and powerful tend to be more successful (at least in western societies; Den Hartog, House, Hanges, & Ruiz-Quintanilla, 1999; Kaplan, Klebanov, & Sorensen, 2012).

Dominance and power do not predict leaders' success in all cases, however. For instance, power-based traits do not predict leadership selection (Rule et al., 2010) or leadership performance (Harms, Han, & Chen, 2012; Rule, Ishii, & Ambady, 2011) in East Asia, where warmth, approachability, and emphasizing collective group benefits tend to characterize leadership more than dominance or power (Den Hartog et al., 1999; Jung & Avolio, 1999). The traits associated with leadership success can also vary by ethnicity within the same culture: Black American business leaders with more babyish facial features achieve greater success in business whereas the opposite is true for White business leaders (Livingston & Pearce, 2009). Given that babyfacedness provokes impressions of warmth and trustworthiness (Berry & Zebrowitz-McArthur, 1985; Zebrowitz-McArthur & Apatow, 1984), these qualities may "disarm" the perceived threat often attributed to Black individuals in the U.S. Thus, although facial characteristics associated with power predict leadership selection and success in business and politics (see Rule & Ambady, 2010, for review), this relationship is not universal.

Although previous studies have demonstrated that facial characteristics associated with leadership success vary by culture and ethnicity, how facial appearance relates to leadership performance in different domains remains untested. The majority of studies to date have focused on the leaders of large-scale business enterprises, such as Fortune 500 CEOs (e.g., Rule & Tskhay, 2014). These are mainly profit-motivated businesses in which financial performance often serves as the standard measure for a leader's effectiveness (Kaiser, Hogan, & Craig, 2008). These businesses therefore strive to increase their own financial interests and those of their shareholders; thus, it may not be surprising that individuals who seem more powerful, dominant, ambitious, or aggressive may be more successful in such contexts. But what about organizations whose main objective is not profit?

A non-profit organization (NPO) is a "group organized for purposes other than generating profit and in which no part of the organization's income is distributed to its members, directors, or officers" (Legal Information Institute, 2014). NPOs use surplus revenues to finance their goals or aims, such as charities or medical research and care organizations. NPOs therefore typically do not operate with the conventional "bottom line" of financial performance as profit-based organizations do (Drucker, 2001). Rather, NPO success is multidimensional and cannot easily be reduced to a single measure (Herman & Renz, 1999). Despite this, NPO success can be classified by considering a range of variables (Forbes, 1998; Herman & Renz, 1999; Kushner & Poole, 1996). Organizational researchers have demarcated NPO effectiveness into categories such as financial performance (e.g., total revenue for charity after expenses), fundraising efficiency (financial support donated by public and private sources), and charitable commitment

(percentage of expenses given to charity), which in turn reflect management effectiveness and impact constituent satisfaction (Forbes, 1998; Ritchie & Kolodinsky, 2003; Sowa, Selden, & Sandfort, 2004). Despite the multitude of criteria used to describe NPO effectiveness, NPO success does not include the personal financial profit of its employees or constituents (e.g., shareholders), as is typically the case for businesses (Kaiser et al., 2008).

Thus, whereas facial cues associated with power and ambition predict the success of leaders of profit-based businesses, it is conceivable that these cues to self-interested behaviors may not predict the success of leaders of NPOs because they hold different goals and values. Facial characteristics associated with power and ambition are also linked to aggressive and untrustworthy behavior (Carré, Morrissey, Mondloch, & McCormick, 2010; Stirrat & Perrett, 2010). Given that NPO success largely depends on fundraising, having an NPO leader with powerful, aggressive facial features may actually work to detract from donated funds. Indeed, previous work found that facial cues related to perceived and actual untrustworthiness, dominance, and willingness to cheat were associated with leadership success in profit-based businesses (Geniole, Keyes, Carré & McCormick, 2014; Stirrat & Perrett, 2010; Wong et al., 2011). The appearance of such characteristics in a leader may therefore not be helpful for an organization whose success depends on charitable donations from others. Thus, traits related to power and dominance may not relate to charitable success among NPO leaders, or may actually be associated with lower success, suggesting that the facial cues to leadership success may vary for different types of organizations.

Here, we tested this hypothesis by examining the faces of the CEOs of America's top 100 NPOs, as ranked by Forbes magazine. We examined whether traits traditionally associated with CEO financial performance in profit-based businesses correlated with the charitable success of CEOs leading organizations where profit is not the main criterion for success.

Study 1

Method

Stimuli. We obtained the names and information about the CEOs of the top 100 highest-revenue NPOs from Forbes's annual listing of the largest US charities (http://www.forbes.com/lists/2011/14/200-largest-us-charities-11_rank.html). The database reported the financial performance of each NPO for the most recently reported fiscal year; all reports came from fiscal years 2009 to 2011. The list does not provide profit margins for each charity like the Fortune 500 list used in previous studies of CEO facial appearance does (Rule & Ambady, 2008) but instead focuses on measures of charitable success. A power analysis indicated that this sample would be sufficient to achieve at least 87% power assuming a false-positive rate of 5%, calculated based on the effect size between judgments of CEO leadership and company profit found in earlier research ($r = .30$; Rule & Ambady, 2008). The database reported how much of an NPO's total revenue was contributed by government support, private support, and other income; as well as the amount of all total expenses that the NPO spent on charitable services, management and general costs, and fundraising revenue. The list provided financial information on charitable services (total amount of money given to charity), charitable commitment (charitable services as a percent of total expenses), fundraising revenue, fundraising efficiency (percent of private support remaining after fundraising expenses), and donor dependency (percent of private support remaining after surplus).

We then obtained facial portraits of each of the CEOs from their companies' websites or annual reports. Due to the paucity of women and racial minority group members represented among the top CEOs, we only used images of Caucasian men to avoid contrast effects

(e.g., Biernat & Manis, 1994). Thus, if a CEO was not a Caucasian man, that CEO was replaced by the CEO of the next leading NPO until we acquired 100 photos of Caucasian male NPO CEOs ($n=11$). We standardized the images by cropping each tightly around the sides of the head and converting them to grayscale to minimize any differences in lighting or backgrounds, as the photos came from a variety of sources.

Participants and procedure. A total of 169 participants (85 men, 84 women; $M_{\text{age}}=33.48$ years, $SD=11.64$) from Amazon's Mechanical Turk (MTurk) rated the photos using Qualtrics online survey software. Sixty-two participants rated the faces along four personality traits—dominance (1 = *Not at all dominant*, 7 = *Very dominant*), likeability (1 = *Not at all likable*, 7 = *Very likable*), facial maturity (1 = *Babyish*, 7 = *Mature*), and trustworthiness (1 = *Not at all trustworthy*, 7 = *Very trustworthy*)—in random order within randomly ordered blocks for each trait. To minimize participant fatigue and reduce task time, we asked perceivers to judge only half of the faces, thus randomly assigning each participant to one of two versions of the task. Critically, we did not tell the participants that they would be rating the faces of leaders, nor was leadership mentioned at any point to the participants in this condition. In contrast, 62 separate participants rated one of the two sets of faces for how effective they thought the person would be at leading a company (1 = *Not at all effective*, 7 = *Very effective*). Moreover, additional groups of participants also rated the faces for age ($N=21$; 1 = *Very young*, 7 = *Very old*), facial attractiveness ($N=15$; 1 = *Not at all attractive*, 7 = *Very attractive*), and affective expression ($N=10$; 1 = *Neutral*, 4 = *Happy*, 7 = *Very happy*) for all 100 faces to use as control variables (similar to previous studies; e.g., Rule & Ambady, 2008), given that these traits tend to strongly affect the perception of social attributes from faces (see Zebrowitz, 1997).

Results and discussion

Participants' ratings showed acceptable levels of inter-rater reliability (all Cronbach's $\alpha \geq .73$). We therefore averaged the ratings across all participants for each trait so that the target was the unit of analysis, as we were interested in generalizing about the leaders rather than the perceivers. For the four personality traits, we conducted a principal components analysis on these mean consensus scores with varimax rotation, as in previous work (e.g., Rule & Ambady, 2008). This produced two factors: Power (consisting of dominance and facial maturity; 53.73% of variance explained) and Warmth (consisting of trustworthiness and likability; 31.96% of variance explained). We therefore averaged the mean scores for the component traits to generate composite Power and Warmth scores for each CEO. A factor analysis of measures of NPO success did not reveal any informative or practical components; thus, we examined each outcome variable independently. As most measures of NPO performance were not normally distributed, we conducted Spearman correlations partialling out the effects of age, affect, and attractiveness.

As displayed in Table 1, perceptions of the CEOs' leadership and Power tended to negatively correlate with the success of their NPO. Specifically, leadership negatively correlated with total NPO revenue, amount of funding from private sources, total expenses, charitable services, charitable commitment, and fundraising efficiency. Power also negatively correlated with charitable commitment, charitable services, and fundraising efficiency, although the last two effects were only marginally significant. Warmth did not significantly correlate with any of the NPO performance measures. Thus, whereas CEO leadership and Power ratings have been shown to positively predict firm profit in previous studies (Rule & Ambady, 2008), Study 1 shows that similar cues do not predict firm performance when profit is not the organization's primary goal.

Table 1. Correlation Coefficients (ρ) and Significance Levels (p) for the Relationships Between the Independent and Dependent Variables in Studies 1 and 3.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Perceptual measures														
1. Leadership	ρ	.30	.32	.41	-.48	-.23	-.49	-.52	-.38	.05	-.20	.03		
	p	.003	.001	<.001	<.001	.023	<.001	<.001	<.001	.63	.045	.75		
2. Power	ρ	.26	-.29	.11	-.14	-.01	-.07	-.19	-.28	.18	-.19	.03		
	p	.011	.003	.28	.18	.94	.52	.057	.005	.076	.061	.77		
3. Warmth	ρ	.36	-.21	.36	-.11	-.02	-.15	-.12	-.14	.10	-.12	-.06		
	p	<.001	.039	<.001	.30	.86	.16	.25	.18	.32	.23	.54		
4. NPO leadership (Study 3)	ρ	.56	.21	.47	.09	-.01	.06	.06	-.23	.27	-.21	-.29		
	p	<.001	.033	<.001	.38	.93	.53	.54	.022	.009	.037	.004		
Organizational performance														
5. Total revenue	ρ	-.34	.01	.19										
	p	<.001	.96	.053										
6. Private support	ρ	-.24	-.03	-.04	.42									
	p	.018	.79	.66	<.001									
7. Total expenses	ρ	-.38	.03	-.02	.15	.37								
	p	<.001	.80	.85	.15	<.001								
8. Charitable services	ρ	-.39	-.02	-.02	.15	.43	.95							
	p	<.001	.84	.83	.13	<.001	<.001							
9. Charitable commitment	ρ	-.43	-.17	-.28	-.35	.17	.01	.13						
	p	<.001	.084	.006	<.001	.099	.90	.19	-.62					
1. Fundraising revenue	ρ	.13	.14	.26	.35	.46	.41	.38						
	p	.21	.16	.01	<.001	<.001	<.001	<.001	<.001					
11. Fundraising efficiency	ρ	-.29	-.11	-.30	-.35	-.22	.23	-.20	.77	-.71				
	p	.004	.28	.002	<.001	.028	.019	.05	.29	<.001				
12. Donor dependency	ρ	-.02	.04	-.10	-.29	.09	-.34	-.34	.10	-.19	.24			
	p	.85	.71	.31	.004	.39	.001	.001	.31	.063	.015			
Control variables														
13. Age	ρ	.07	.74	.07	.20	.13	.12	.14	-.05	.10	-.06	.02		
	p	.50	<.001	.51	.045	.18	.25	.17	.64	.30	.58	.82		
14. Affect	ρ	.07	-.17	.58	.25	.12	.13	.08	-.23	.26	-.30	-.06	.08	
	p	.48	.086	<.001	.014	.24	.83	.19	.42	.022	.008	.56	.43	
15. Attractiveness	ρ	.39	-.20	.16	.44	.07	.06	.05	-.17	.09	-.18	-.11	-.40	-.01
	p	<.001	.051	.11	<.001	.49	.55	.65	.09	.40	.073	.29	<.001	.95

Note. Values above the diagonal ($df = 95$) represent partial Spearman-rank correlations controlling for perceptions of age, affect, and attractiveness; values below the diagonal ($df = 98$) represent bivariate Spearman-rank correlations.

Interestingly, leadership judgments correlated with both perceived Power and perceived Warmth in approximately equal measure, suggesting that the appearance of leadership may be a complex amalgam of disparate traits conveying both authority and approachability.

Study 2

In Study 1, we found that ratings of leadership and traits related to Power and Warmth from the faces of CEOs correlated differently with the charitable performance of NPOs than they did with the financial performance of profit-based companies in earlier work (e.g., Rule & Ambady, 2008). To explore this difference further, we compared judgments of personality traits from CEOs of profit-based companies versus CEOs of NPOs in Study 2.

Method

Stimuli. We collected facial photographs of the CEOs of the 50 highest-ranked companies from the 2006 Fortune 500 listing (<http://money.cnn.com/magazines/fortune/fortune500>) from their companies' websites or online postings of their annual reports to shareholders, as in previous work (Rule & Tskhay, 2014). We did not include the CEO of the 49th-ranked company (Paul Otellini, Intel) because he was appointed CEO in May of 2005 and was therefore not the CEO for the full 2005 fiscal year (the year upon which the 2006 list was based); we replaced him with the CEO of the 51st-ranked company (David B. Snow Jr., Medco Health Solutions). We standardized the images by cropping each tightly around the sides of the head and converting it to grayscale. We combined these images with the pictures of CEOs of the top 50 NPOs from Study 1 to create blocks of 100 faces.¹

Participants and procedure. A total of 122 participants (56 men, 66 women; $M_{\text{age}} = 35.81$ years, $SD = 12.47$) from MTurk rated the 100 faces in random order for one of four personality traits: dominance, likeability, facial maturity, or trustworthiness. Additional groups of participants also rated the faces for age ($N = 11$; 1 = *Very young*, 7 = *Very old*), facial attractiveness ($N = 16$; 1 = *Not at all attractive*, 7 = *Very attractive*), and affective expression ($N = 10$; 1 = *Neutral*, 4 = *Happy*, 7 = *Very happy*) for use as control variables. Participants' ratings showed acceptable levels of inter-rater reliability (all Cronbach's $\alpha \geq .74$). We therefore averaged the ratings across all participants for each trait so that the leader was the unit of analysis, as in Study 1. A principal components factor analysis produced a similar two-factor solution as in Study 1 (Power: 48.39% of variance explained; Warmth: 28.08% of variance explained). We therefore again created composite Power and Warmth scores for each CEO.

Results and discussion

We conducted separate univariate ANOVAs to test whether Power and Warmth differed by CEO type (NPO vs. profit-based), with ratings of age, affect, and attractiveness entered as covariates. The analyses revealed higher Power ratings for profit-based CEOs ($M = 4.36$, $SD = 0.48$) than for NPO CEOs ($M = 4.32$, $SD = 0.51$), $F(1, 95) = 4.23$, $p = .04$, $\eta^2_{\text{partial}} = .04$. Warmth ratings were slightly higher for NPO CEOs ($M = 3.73$, $SD = 0.45$) than for profit-based CEOs ($M = 3.61$, $SD = 0.41$); this effect did not reach significance, however, $F(1, 95) = 2.12$, $p = 0.15$, $\eta^2_{\text{partial}} = .02$. These results indicate that the faces of CEOs of very successful NPOs and profit-based businesses differ such that CEOs of profit-based businesses look more powerful than the CEOs of NPOs (Figure 1).



Figure 1. Images of the top-ranked CEO from each of the (a) NPO and (b) Fortune 500 lists in Study 2. CEOs of NPOs were rated as less Powerful than CEOs of profit-based businesses.

These results are interesting in light of previous research demonstrating that Power correlates with CEO success in profit-based businesses (e.g., Rule & Ambady, 2008). Research has revealed a “kernel of truth” in facial cues of Power that signal real dominance, aggression, and selfishness (Carré et al., 2010; Geniole et al., 2014; Haselhuhn, Wong, & Ormiston, 2013). People who display these facial cues may therefore enjoy greater success as leaders in fields where the primary goal is personal gain and stakeholder wealth. Conversely, there may be no such trend for leaders of organizations where personal gain is not the primary goal. Over a large range of corporations, these patterns may manifest in Powerful-looking people attaining leadership roles in successful profit-based corporations, but not necessarily leadership roles in NPOs. In Study 3, we thus investigated whether the context of an organization might influence the traits that relate to perceptions of leadership.

Study 3

Judgments of leadership and Power from faces positively predicted the success of CEOs of profit-motivated companies in past work (e.g., Rule & Ambady, 2008) but negatively correlated with measures of the charitable success of CEOs of non-profit organizations in Study 1, and CEOs of profit-based businesses looked more powerful than CEOs of NPOs in Study 2. Together, these opposing relationships suggest contextual specificity for the perceived traits linking leaders’ facial appearance to their organizations’ success. However, there we asked participants to rate the faces without specifying the context of the leadership role. Given that individuals may apply a default framework for thinking about leadership and its associated qualities (Offerman, Kennedy & Wirtz, 1994), stipulating the context of leadership could conceivably influence the traits that perceivers associate with leadership

when making their judgments (e.g., Calder, 1977). Indeed, previous research has demonstrated that judgments of political leadership are affected by the context in which perceivers imagine making their judgments (Little, Burriss, Jones & Roberts, 2007; Little, Roberts, Jones, & DeBruine, 2012; Re, DeBruine, Jones & Perrett, 2013; Spisak, Dekker, Krüger & van Vugt, 2012; Spisak, Homan, Grabo & Van Vugt, 2012) as well as the cultural values in which perceivers are embedded (Rule et al., 2010). Individuals' assessments of leadership from faces may therefore show a different pattern when they believe that they are evaluating candidates for an NPO leadership role. Specifically, the negative relationship between participants' leadership judgments and NPO outcomes in Study 1 may have been an artifact of participants applying default conceptions of leadership that do not accord with the service-based goals typical of NPOs. We tested this possibility in Study 3 by repeating the leadership judgments from Study 1 but including instructions specifying that perceivers were evaluating leadership in the context of an NPO.

Method

Participants ($N = 58$; 35 men, 23 women; $M_{\text{age}} = 31.72$ years, $SD = 11.04$) began by reading a passage explaining the difference between an NPO and a regular business corporation (Appendix A). We told them that the faces were CEOs of NPOs, and asked them to rate the targets for how effective they would be as leaders of an NPO. The participants then rated all of the faces following the same procedures of the leadership judgment condition in Study 1. Finally, we asked them to explain the difference between an NPO and a regular business corporation, which served as a manipulation check; we excluded 12 participants from analysis for failing to correctly answer this item (final $N = 46$). Participants' leadership ratings again showed acceptable levels of inter-rater reliability (Cronbach's $\alpha = 0.77$); thus, we averaged their ratings so that the leader was the unit of analysis and correlated these mean scores with the measures of NPO success while controlling for age, affect, and attractiveness using partial Spearman correlations, as in Study 1.

Results and discussion

Although the undefined ratings of leadership significantly correlated with both Power and Warmth in Study 1, ratings of the same CEOs' anticipated effectiveness specifically as the leaders of NPOs correlated with Warmth but not Power (see Table 1). Meta-analytic comparisons of the correlations (see Meng, Rosenthal, & Rubin, 1992) revealed that the relationship between Power and leadership ratings in the NPO context was significantly weaker than the correlation between Power and leadership ratings when the context was not defined in Study 1 ($Z = 1.75$, $p = .04$), though both sets of leadership ratings significantly correlated, $r(98) = .56$, $p < .001$. The relationship between Warmth and leadership ratings in the NPO context did not significantly differ from the relationship between Warmth and leadership ratings when undefined in Study 1 ($Z = 0.39$, $p = .35$). Thus, instructing participants to consider the leaders specifically within the context of an NPO seems to have partially altered the way that they evaluated the faces.

The relationship between leadership ratings and measures of NPO success also differed when participants rated the faces in the NPO context. Although NPO leadership ratings continued to negatively correlate with fundraising efficiency and charitable commitment here, as in Study 1, NPO leadership ratings positively correlated with fundraising revenue and negatively correlated with donor dependency—thus, in the opposite direction of the relationships that we observed when not defining the context of leadership in Study 1 (the

correlations for fundraising revenue and donor dependency significantly differed between the leadership ratings here versus Study 1; both $Z_s \geq 2.01$, $ps \leq .02$). Thus, participants appeared to evaluate individuals somewhat differently when considering them as leaders of an NPO.

General Discussion

Success is defined differently across contexts of leadership (Drucker, 2001; Kaiser et al., 2008). Here, we found this difference reflected in the naïve judgments of leaders' faces. In Study 1, perceptions of leadership ability and Power from the faces of CEOs of NPOs negatively associated with a host of NPO charitable performance measures. These findings contrast with previous research showing that perceptions of leadership ability and Power positively related to the financial performance of profit-based Fortune 500 companies (e.g., Rule & Ambady, 2008). Thus, to the extent that these judgments are valid indicators of individuals' actual dispositions (a topic to which we return later), different qualities may support success in NPOs versus profit-motivated businesses.

This distinction also manifested in the way that evaluations of leadership related to relevant traits. In Study 1, we found that inferences of both Power and Warmth from leaders' faces significantly related to how successful people believed they would be as leaders. When we defined the context of leadership to be specific to NPOs, however, we found that only Warmth related to perceived leadership success. Thus, equipping perceivers with the knowledge that they were considering each target's effectiveness as the leader of an NPO appears to have caused them to recalibrate their judgments of leadership. Notably, none of these participants rated Warmth; that is, we used the same values for the trait perceptions (i.e., Power and Warmth) across our analyses in Studies 1 and 3, and we never mentioned leadership when measuring participants' perceptions of these traits. Rather, the extent to which Power and Warmth corresponded with the participants' leadership judgments changed. This suggests that individuals incorporate different information into their evaluations of leadership depending on the context, supporting past work that has illustrated how contextual changes can shift what is valued in a leader (e.g., Little et al., 2007) as well as research documenting individuals' use of implicit leadership theories to evaluate and assess potential leaders (e.g., Offerman et al., 1994).

Although NPO effectiveness cannot be reduced to a single measure of performance (Herman & Renz, 1999), it is clear from the consistent inverse relationship across NPO revenue, charitable services, charitable commitment, and fundraising efficiency that the facial appearance of leaders of NPOs broadly predicts organizational success. The direction of this effect is potentially most interesting. Specifically, we found that positive evaluations of leadership actually correlated with worse performance in achieving organizational success in Study 1, although these effects mostly reversed when participants specifically judged NPO leadership in Study 3. We found parallel effects for the relationship between leadership and Power, suggesting that perceivers did not use traits related to Power to infer leadership when the target was specified to be the leader of an NPO. These results mirror those of Study 2 in which we found that leaders of NPOs actually did look less Powerful than leaders of profit-based businesses.

Previous research demonstrated that perceptions of personality traits from business leaders' faces correlated with measures of their organizations' financial performance (e.g., Rule & Ambady, 2011a). Scholars have interpreted these findings as demonstrating that leadership ability can be accurately inferred from faces (Rule & Ambady, 2008). Although these results have been replicated across many samples of businesses and corporations (Rule & Tskhay, 2014), the current study adds an important caveat to this previous work—that the relationship between facial appearance and financial performance is moderated by

organizational context. CEOs of profit-based businesses with facial characteristics related to Power tend to achieve greater financial success (e.g., Rule & Ambady, 2008; Wong et al., 2011), whereas the results of Study 1 demonstrated that Power does not relate (or negatively relates) to charitable performance among CEOs of NPOs. Accordingly, the results of Study 2 demonstrated that CEOs of profit-based businesses were more likely to have Powerful facial cues than CEOs of NPOs, even when accounting for emotional expression. The current work suggests that an appearance connoting Power might portend less success in organizations where a primary directive is donation and charity.

Leadership judgments were more closely related to judgments of Warmth when the targets were known to be CEOs of NPOs. Furthermore, these leadership judgments correlated with some positive measures of NPO success, including total funds raised and less reliance on donor dependency. These results demonstrate the importance of context in the relationship between facial appearance and leadership performance. Indeed, previous research has shown variation in the relationship between facial appearance and measures of leader success both across cultures (Rule et al., 2010a) and across different ethnicities within the same culture (Livingston & Pearce, 2009). A recent study demonstrated that, in a forced-choice task, people could guess the leadership domain for faces of leaders of different occupations (e.g. military, business, etc.) better than chance, and that these estimates were based on impressions stereotypical to that domain (e.g., business leaders look competent, military leaders look masculine, etc.; Olivola, Eubanks & Lovelace, 2014). In the current work, the results of Study 2 suggested that profit-based business leaders look more Powerful than leaders of NPOs, and the results of Study 3 showed that specifying the leadership domain not only alters perceived leadership ability from faces, but increases the predictive value of these ratings for an organization's success.

The mechanism through which facial appearance reflects leadership success is not entirely clear. Previous studies have demonstrated that facial appearance predicts objective measures of firm success for business CEOs (Rule & Ambady, 2008, 2009) and law firm MPs (Rule & Ambady, 2011a), even when controlling for company performance before the current leader is installed (Re & Rule, 2016; Wong et al., 2011). Targets' choice of photos on their organizations' websites may purvey a desirable appearance for their domain, but these effects should be somewhat systematic across the sample. Furthermore, previous research has shown that facial appearance predicts executives' leadership success even when the picture is taken up to 50 years before the person attains the leadership position (Rule & Ambady, 2011b). Static facial attributes based on bone structure account for a significant proportion of first impressions (Hehman, Flake, & Freeman, 2015; Vernon, Sutherland, Young, & Hartley, 2014), we therefore expect that leadership impressions should be fairly consistent across different photos of the same person. Facial appearance may affect real-world leadership choice in that those perceived to "look like a leader" for a particular domain are treated as such, and therefore ascend to actual leadership roles faster. In turn, an individual with a "leader-like" appearance may believe him- or herself to be a good leader and act more leader-like, creating a feedback loop in which appearance and behavior converge (see Re & Rule, 2015; Zebrowitz-McArthur & Baron, 1983). Indeed, candidates for CEO positions in elite-level companies like those studied here and in previous research (Rule & Ambady, 2008) may show a ceiling effect in terms of leadership abilities, and thus facial appearance may actually have a greater role in differentiating executives at this level than more modest companies (Re & Rule, in press).

The current studies examined perceptual cues to Power and Warmth and their relationship with NPO success; however, we did not measure the physical features that may underlie these impressions. Previous research has shown that facial masculinity (DeBruine et al., 2006;

Watkins, 2011) and facial width-to-height ratio (fWHR; Carré, McCormick, & Mondloch, 2009) both portend judgements of dominance whereas feminine facial features predict judgments of traits related to Warmth (Perrett et al., 1998). Given that a common hormonal underpinning may shape both facial features and aspects of personality (see Re & Rule, 2015), and as previous research has connected physical face dimensions to leadership judgments and success (Alrajih & Ward, 2014; Re & Rule, 2016; Re et al., 2013; Wong et al., 2011). Although we focused on examining contextual factors that may influence the relationship between perceived personality dimensions and leadership success found in previous research here (Rule & Ambady, 2008; 2009; Pillemer, Graham, & Burke, 2014), further research on the physical features associated with leadership success surely seems warranted.

The current research therefore demonstrates that perceptions of leadership are not uniform across contexts and may consequently relate to measures of leadership success differently depending on the context in which they are observed. Indeed, the studies reported here suggest that organizational context may matter a great deal to perceptions of leadership and their capacity to predict leaders' ability to achieve their goals. This is an important caveat to previous research on the relationships between facial appearance and leadership success and may therefore provide critical boundary conditions for understanding how perceptions of leaders' appearance contribute to predicting real-world outcomes.

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Note

1. We used only the top 50 CEOs from each list to avoid participant fatigue.

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Appendix A

Instructions for Study 3:

A **NON-PROFIT ORGANIZATION (NPO)** is an organization that uses surplus revenues to achieve its goals rather than distributing them as profit or dividends.

Many charities or medical research centers exist as non-profit organizations. These organizations use surplus revenue to finance their charitable donations or research.

NPOs differ from regular business corporations, which are mainly profit-motivated and for which financial performance serves as the gold standard for success. Regular business corporations strive to increase their own financial interests and those of their shareholders.

In the following section you will see a set of faces of Chief Executive Officers (CEOs) of **NON-PROFIT ORGANIZATIONS (NPOs)**. Please rate each CEO on how effective they appear as a leader of an **NPO**: Not at all effective (1) to Very effective (7).

Manipulation Check Item:

Please describe, in your own words, what an NPO is and how it differs from a regular business in terms of how it treats its revenues.