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**CEO FACIAL APPEARANCE, FIRM PERFORMANCE, AND FINANCIAL SUCCESS**

Daniel E. Re

Nicholas O. Rule

University of Toronto

### **Purpose**

This chapter examines the literature on how the facial appearance of chief executive officers (CEOs) relates to their firms' financial performance. The chapter covers the seminal first studies demonstrating a link between facial appearance and financial performance and subsequent research on how this relationship varies by gender, culture, and economic climate. Further work examining specific facial dimensions and neural correlates related to CEO success and financial performance are also discussed.

### **Design/methodology/approach**

The chapter reviews all studies on CEO facial appearance and company financial performance to date and links them through a theoretical framework based in ecological and evolutionary theories of social perception.

### **Findings**

Taken together, the studies reviewed here demonstrate that CEO facial appearance is related to firm financial profit in specific cultural and economic environments.

### **Practical and social implications**

The research discussed in the current chapter suggests a “kernel of truth” in judgments of leadership ability based on photos of faces. The results of these studies therefore provide evidence for the validity of cues to leadership quality drawn from physical appearance.

### **Originality/value**

Previous studies have demonstrated how physical appearance affects leadership selection. The studies reviewed in this chapter are the first to extend this line of research to demonstrate that appearance can also be indicative of leadership quality, even at the highest levels of management for large-scale businesses.

## **CEO FACIAL APPEARANCE, FIRM PERFORMANCE, AND FINANCIAL SUCCESS**

Psychological research in person perception has established how judgments of people can be accurate based just on appearance. Under the ecological theory of social perception (Zebrowitz and Collins, 1997; Zebrowitz-McArthur and Baron, 1983), one's physical appearance can act as an "affordance" (Gibson, 1979), and perceivers can extract meaningful social signals from such affordances to draw accurate inferences about that person. In this model, a face serves a functional purpose for communicating social information, and perceivers may be attuned to detect and utilize such information. Relatedly, an evolutionary psychology perspective of person perception suggests that appearance is a function of biological mechanisms that also shape personality, and that humans adapt to become attuned to social cues relevant to their own survival and reproduction (Buss, 1999). Facial development is affected by many hormones that also alter personality and emotional development and behavioral characteristics (Neave, Laing, Fink, and Manning, 2003) and, thus, humans may have evolved to extract meaningful social signals from faces (Perrett, 2010).

One relatively new line of research in person perception has examined the link between facial appearance and leadership selection. Leadership is a universal part of human society, and leadership quality has great impacts on the well-being of group members (Brown, 1991; Hogan, Curphy, and Hogan, 1994). Indeed, since the dawn of the human species (and well before that in our ancestral lineage), individuals have converged to form cohesive groups, and group leaders have had enormous effects on the survival of their followers (van Vugt, Hogan, and Kaiser, 2008; van Vugt and Ronay, 2013). In this respect, it is perhaps unsurprising that leadership is a quality that, over history, humans have adapted to be able to infer from appearance. Such psychological adaptations have likely had great effects on leadership selection and group

survival over millennia (van Vugt, Hogan, and Kaiser, 2008), and persists to this day, influencing leader selection in modern societies (Riggio and Riggio, 2010).

Research in person perception has demonstrated that facial appearance has surprising effects in leader selection. Several studies have found that facial attractiveness has a powerful influence on leadership selection in politics, with attractiveness correlating with the percentage of votes that candidates obtain (Banducci et al, 2008; Budesheim and Depaola, 1994; King and Leigh, 2009; Surawski and Ossoff, 2006). Moreover, further research has uncovered that facial appearance associated with attributions of competence and dominance positively affect leadership selection. For instance, people who appear more competent and dominant obtain positions of authority in both hypothetical and real-world political elections (Armstrong et al., 2010; Ballew and Todorov, 2007; Olivola and Todorov, 2010; Todorov et al., 2005). Perceptions of maturity from faces have also been theorized to affect leadership selection (Zebrowitz and Montepare, 2005), as people with “baby-faces” tend to look weaker and less competent (Berry and Zebrowitz-McArthur, 1985; Zebrowitz and Montepare, 1992). These findings make sense in light of ecological and evolutionary theory, as traits relating to strength, dominance, power, and social persuasion were likely to have been essential characteristics of leaders throughout human history (Riggio and Riggio, 2010; van Vugt, Hogan, and Kaiser, 2008).

Although facial appearance has significant effects on leadership selection, a separate question is whether facial appearance is indicative of actual leadership ability. Research on face perception and leadership has largely focused on leader selection in the political world. However, leadership *selection* does not necessarily relate to leadership *success*, and the multi-faceted and subjective nature of accomplishment in the political world makes it very difficult to objectively evaluate leaders’ accomplishments. The influence of perceived facial dominance and

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maturity on leadership selection is believed to be rooted in humans' evolutionary past, where leaders would obtain followership through threat of physical force (Riggio and Riggio, 2010); it is therefore unclear whether these attributions have any actual link to leadership success, particularly in the modern world.

One area where success is much more easily identified is in business. Although corporations may vary in their products and services, all profit-based businesses strive to achieve financial gain and stability (Kaiser et al., 2008). The business world is therefore unique in that measures of success can be more accurately reported. For example, the Fortune 500 and similar listings annually rank private and public corporations according to gross revenue and profit.

Thus, distinct from the political forum, leaders in business can be evaluated more accurately via their firms' financial performance. This provides a unique opportunity for leadership researchers, allowing them to examine whether the physical traits that influence leadership selection might also be associated with leadership success. In that respect, one can measure perceptions of leadership from executives' faces and then investigate whether these measures correlate with leadership ability as measured by financial performance. Several recent studies have assessed the relationship between corporate financial performance and the facial appearance of the chief executive officer (CEO).

CEOs are at the top of the leadership hierarchy in the business world (Kaiser et al., 2008). They can have a great impact on their company's success (Barney, 1991; Barrick et al., 1991; Bertrand and Schoar, 2003), with some studies estimating the effect of executive leadership on company profit being as high as 20-45% (Day and Lord, 1988; Thomas, 1988). The CEOs of large companies have become increasingly prominent in the public eye in the last decade (Ranft et al., 2006). Many large businesses have begun to use their CEOs in advertising campaigns

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(Treadway et al., 2009) and the most charismatic CEOs have become akin to celebrity figures in today's media-laden world (e.g. Richard Branson, Steve Jobs, Donald Trump etc.; Wade et al., 2008). The increase in media presence of some CEOs even has effects on the perceived reliability of financial reports, management integrity, and outcomes of financial audits (Iyer and Reckers, 2007; Gates, Reckers, and Robinson, 2009). In some instances, the CEO has become the "face" of the company, and has become the company's *de facto* spokesperson (Ranft et al., 2006).

In this chapter, we review studies from a new line of psychological research that examines how appearance correlates with leadership success. Specifically, these studies focus on whether the facial appearance of CEOs predicts company success in terms of financial performance. The studies discussed here constitute the extent of a new and burgeoning line of psychological research and, though relatively few studies are presented, such literature may be of use and interest to readers in business who are not often exposed to empirical research in psychology. These studies are grounded in ecological and evolutionary theory, investigating whether adaptive perceptions of leadership ability from facial appearance do indeed predict actual leadership quality. The research reviewed in this chapter creates a compelling case that impressions of leadership ability made from simple face photographs are accurate, providing evidence that physical appearance affords valid cues to leader quality. Such information could be applied to modern day leadership selection in the business world. Figure 1 and Table 1 summarize the research conducted to date on the relationship between CEO appearance and company financial performance. Different studies examine different face characteristics, and use different (but related) measures of profit-based performance; however, all studies demonstrate a link between facial appearance and financial gain.

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## **FACIAL APPEARANCE AND CEO SUCCESS**

Rule and Ambady (2008) were the first to examine how perceptions of personality made from facial appearance related to leadership success in the business world. They collected facial photographs of the CEOs of the top-25 and bottom-25 ranked companies from the 2006 Fortune 1000 listing of highest grossing U.S. businesses. Participants rated faces for leadership (“how successful would this person be at leading a company”) on a scale from 1-7, as well as for several traits that had been found to correlate with leadership selection in politics: competence, dominance, likability, facial maturity (i.e. the opposite of baby-faced), and trustworthiness (Todorov, Mandisodza, Goren, and Hall, 2005; Rule et al., 2010). Indeed, previous studies have found that judgments of personality can be accurately ascertained from faces (Kenny, Albright, Malloy, and Kashy, 1994; Kenny, Kashy, and Bolger, 1998). The CEOs’ faces were also rated for attractiveness and affective (or emotional) expression to control for possible extraneous effects, as facial attractiveness (Dion et al., 1972) and emotional expression (Zebrowitz, 1997) have repeatedly been found to exert strong effects in the way that people are perceived. Age may also relate to leadership perception (Spisak, 2012) and, thus, CEO age was also statistically controlled. Company net profit and revenue (gross profit) were used as proxies of firm performance. By utilizing these objective measures of financial performance, Rule and Ambady (2008) were able to examine whether facial appearance was indicative of actual financial performance, not just an advantage in leader selection.

Participants' ratings of leadership ability correlated with company profit ( $r = .30$ ) after controlling for the effects of attractiveness, affect, and the age of the CEO. A principal components analysis of the personality traits examined (competence, dominance, maturity, likability, and trustworthiness) produced two factors, one consisting of traits associated with power (competence, dominance, and maturity) and the other consisting of traits associated with interpersonal warmth (likability and trustworthiness). The power factor also correlated with company profits after controlling for attractiveness, affect, and age. Interestingly, power and subjective impressions of leadership were not correlated in this study and each of these effects remained statistically significant when controlling for the other in the analyses. It is important to point out that the participants whose data were used in these analyses were naïve to the purpose of the experiment, and did not recognize the faces of the CEOs. These results indicate that individuals form judgments of leadership ability from facial appearance, and that these judgments correlate with measures of financial performance that are unbiased by outside knowledge of specific leaders' personal and professional histories. This study was the first to link CEO facial appearance with firm financial performance. Previous research found that facial appearance affects leadership selection; however, the results of this study suggest that such facial cues are related to actual leadership success. This study is therefore groundbreaking in that it provides evidence for the validity of facial cues to leadership quality, and demonstrates that they manifest even in the highest levels of the business world.

One limitation of Rule and Ambady's (2008) initial study was that it only included faces of male CEOs, as there was only one female CEO in the range of companies surveyed from the Fortune 1000 list. In fact, even though the number of women in the workplace has increased substantially over recent decades, the number of women in executive positions remains low

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(Duehr and Bono, 2006; Welle and Heilman, 2007). Although attractiveness has been found to relate to electoral success among male political candidates (Banducci et al., 2008; Budesheim and Depaola, 1994; Little, Roberts, Jones and DeBruine, 2012), attractiveness has been found to negatively correlate with electoral success for female leaders (Heilman and Stopeck, 1985, though see Berggren et al., 2010), thus demonstrating that facial appearance may have divergent effects on perceptions of leadership ability for men and women.

In that respect, Rule and Ambady (2009) examined whether the relationship between facial appearance and leadership success existed for female business leaders. They collected facial photographs of all 20 female CEOs from the 2006 Fortune 1000 list of companies and asked participants to rate them for the same traits as in Rule and Ambady (2008). They found that ratings for both leadership ability and competence (when controlling for age, affective expression, attractiveness, and also how masculine each face appeared—which exerts effects on leadership judgments; Little, Burriss, Jones and Roberts, 2007) positively correlated with company profits. Furthermore, ratings of how dominant (i.e., how physically strong) the woman looked predicted female CEOs' individual compensation, an effect not found for male CEOs in Rule and Ambady (2008). These results suggest that leadership success is reliably and accurately evaluated in both male and female CEOs.

### **The Neuroscience Behind Facial Cues Associated with CEO Success**

Research on the parts of the brain involved in social perception has revealed that ratings of leadership ability from political candidates' faces are associated with the strength of response in the bilateral amygdala when viewing their faces (Rule et al., 2010a). The amygdala is a subcortical structure of the brain implicated in tracking the arousal-level of perceived stimuli (Anderson et al., 2003). Thus, this research suggests that judgments of leadership have a neural

underpinning, and suggest some automaticity in perceptions of leader ability. One more recent study demonstrated similar effects for judgments of leadership from CEOs' faces (Rule et al., 2011a). In that study, participants viewed the faces of 68 Fortune 1000 CEOs while undergoing a series of functional Magnetic Resonance Imaging (fMRI) scans of their brains. Unlike the typical structural MRI scans commonly used in diagnostic medicine, fMRI obtains volumes of images of the brain across time to monitor how bloodflow changes in different brain regions in response to a particular behavior (i.e. viewing the faces of CEOs). The magnitude of responses in the amygdala correlated with participants' ratings of leadership ability. Perhaps more striking, the magnitude of amygdala response from CEOs' faces also correlated with the net profits of their companies. These results are especially notable, as they demonstrate that accurate judgments of leadership success, as measured by objective financial earnings, have a localized neural basis. Moreover, given that the brain area involved in processing CEO success is the same as that involved in evaluating fit between stimuli (such as faces) and situational demands (such as leadership decisions) (Cunningham, Van Bavel, and Johnsen, 2008), one could surmise that the faces of more successful CEOs appear more "leader-like" than the faces of less successful CEOs (see Rule et al., 2011a, for additional evidence and discussion).

## **FACIAL DIMENSIONS ASSOCIATED WITH CEO SUCCESS**

Once the relationship between facial appearance and CEO success was established, further studies attempted to discern which characteristics of the face might be responsible for these effects. One facial parameter that was postulated to correlate with leadership ability and financial performance was facial-width-to-height ratio (fWHR). This facial dimension is defined as the vertical distance between the lower eyebrow and top of the lip divided by the horizontal distance between the two cheekbones (Figure 2). Facial-width-to-height-ratio is thought to be a

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sexually-dimorphic trait, with men's fWHR being larger than women's (Weston et al., 2007; cf. Lefevre et al., 2012; Özener, 2011). Men with higher fWHR are perceived as more aggressive (Carré, McCormick, and Mondloch, 2009) and also tend to enact more aggressive and less trustworthy behavior (Carré et al., 2009; Stirrat and Perrett, 2010). Men with higher fWHR are also more likely to cheat and deceive in order to increase financial gain (Haselhuhn and Wong, 2012). Interestingly, these effects only exist for men, suggesting an interaction between sex, fWHR and behavior.

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Facial width-to-height ratio correlates with real-world measures of aggressive and ambitious behavior and is associated with a psychological sense of power (Haselhuhn and Wong, 2012). It is therefore possible that fWHR could predict leadership performance in a business context. One study examined whether fWHR was associated with leadership success (as measured by financial performance) in a sample of 55 male CEOs of Fortune 500 companies spanning nearly a decade (Wong et al., 2011). The authors found that CEOs' fWHR correlated with financial returns on assets after controlling for company size, the ages of the CEOs, and baseline profits before the CEO was in power. There was a caveat to this finding, however: the relationship between CEOs' fWHR and company profit was only significant if the company had a cognitively simple leadership hierarchy (i.e., the CEO has absolute leadership, instead of a more complex leadership structure that is more democratic, Hermann, 1999; though this is not to say that people with high fWHR do not lead companies with complex leadership structures). The

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latter finding indicates that the dominant behavior associated with high fWHR may be a more valuable leadership tool when a leader has greater control over his or her organization.

More recently, another study examined the link between fWHR and CEOs' faces (Alrajih and Ward, 2013). In this study, faces of 93 male CEOs from UK FTSE-100 companies (the most widely-used stock market indicator in the United Kingdom) were measured for fWHR. The CEOs' faces had a greater fWHR than age- and sex-matched controls of non-businessmen. Furthermore, ratings of how dominant and successful a face was were higher for CEOs than for the control group. Ratings of dominance and success were also correlated with fWHR across both CEOs and the control group. These results lend support to the findings of Wong et al. (2011) and provide further evidence for the relationships between CEO success, fWHR, and power judgments that were suggested by previous studies (Rule and Ambady, 2008; Wong et al., 2011).

Facial width-to-height ratio has been shown to relate to CEO success, and other studies have now begun to investigate the specific configurations and facial features that affect accurate perceptions of leadership ability. Re and Rule (2014) collected faces of the CEOs of the top-25 ranked Fortune 500 companies and deconstructed these images to assess which facial features influenced perceptions of leadership quality. They found that the relationship between judgments of leadership ability and net profits was retained when hairstyle was cropped from the photograph, suggesting that accurate perceptions of leadership quality are dependent on internal facial features. Narrowing this further, leadership judgments were accurate when the lower half of the face (below the nose) was presented in isolation, but not when only the upper half was presented, suggesting the source of accurate perceptions of judgments of leadership seems to rest within the details of the lower portion of the face. Finally, measures of the physical width of the

CEOs' mouths uniquely correlated with their profits, suggesting that mouth width may be the relevant distinctive cue. These results are the first to link a physical facial feature to both perceptions of leadership ability for faces of CEOs and actual financial performance. It is possible that mouth-width affects the judgments of competence or power found to predict financial performance in previous studies (Rule and Ambady, 2008), and future research could examine the role of mouth width in social attributions related to judgments of leadership. Taken together, the series of findings reported by Re and Rule (2014) are the first to examine how specific dimensions of facial features affect the accuracy of perceived leadership ability in CEOs faces.

## **CONTEXTUAL EFFECTS ON THE RELATIONSHIP BETWEEN FACIAL APPEARANCE AND CEO SUCCESS**

### **Facial Appearance and CEO Success Across Cultures**

The studies discussed to this point suggest a relationship between CEO facial appearance and leadership ability. It is important to note, however, that these studies were conducted using mainly Caucasian CEOs of North American companies. Previous research in leadership selection has demonstrated that Western cultures tend to foster leaders with dominant and powerful behavioral traits, yet Asian cultures support more approachable leadership styles (Den Hartog et al., 1999; Jung and Avolio, 1999; Misumi and Peterson, 1985). It should be noted that America has a much lower "power distance" (i.e., the extent to which members of a society accept that power in institutions and organizations is distributed unequally; Hofstede, 1980) than large Asian business markets such as in Japan and China. It is therefore possible that physical cues to dominance and power are more advantageous in reinforcing leadership hierarchies in Western countries than in regions where such power structures are firmly established. Thus, it is

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conceivable that facial characteristics associated with dominance and power, which predict CEO success in Western cultures (Rule and Ambady, 2008, 2009) may not relate to leadership performance in cultures where such traits are less necessary or desirable. Indeed, previous research has demonstrated that traits related to perceptions of power (such as dominance and facial maturity) predict political leadership selection in the United States, but that traits associated with perceptions of warmth (such as likability and trustworthiness) predict electoral success in Japan (Rule et al., 2010b).

One study examined whether the relationship between facial appearance and leader success varied between American (from the Fortune 1000) and Japanese (from Fortune's Global 500) CEOs (Rule et al., 2011b). American and Japanese participants were asked to rate the faces of both American and Japanese CEOs for traits associated with power and warmth (as in Rule and Ambady, 2008). Participants from both cultures showed consensus in their judgments of dominance, maturity, likability, and trustworthiness for faces of both American and Japanese CEOs. Furthermore, both American and Japanese participants' ratings of power-related traits were found to correlate with the company profits of American CEOs. Despite this, however, neither power- nor warmth-related traits from American or Japanese participants predicted the company profits earned by Japanese CEOs. The discrepancy in results between cultures may be partly due to differences in organizational goals, as Western corporations tend to emphasize short-term stock market success and shareholder profit, whereas Japanese corporations focus on long-term stability and business growth (David, et al., 2010; Kaplan, 1994; Yoshimori, 1995). Furthermore, Japanese business executives rarely change companies; thus, leadership promotion may be based less on personality and more on connections and tenure within a company (Wiersema and Bird, 1993). Regardless of the proximal explanation, the results of Rule et al.

(2011b) suggest that the relationship between facial appearance and CEO success may vary across cultures.

Recent studies have expanded further upon cultural differences in the relationship between CEO appearance and leader success. Harms et al. (2012) examined whether American students could accurately predict leadership success from Chinese CEOs' faces. Whereas traits such as intelligence and dominance are preferable among leaders in the West (Hogan, 2007; Jung and Avolio, 1999; Lord, Devader, and Alliger, 1986), these traits are not necessarily beneficial to Chinese leaders. Instead, traits associated with supportiveness and the willingness to take risks are advantageous for business leaders in China (Wang et al., 2011). Harms et al. (2012) used images of 71 Chinese CEOs and asked 105 American students to rate the faces for personality traits and leadership effectiveness. Americans' ratings of intelligence, dominance, supportiveness, emotional positivity, and attractiveness all correlated with their ratings of leader effectiveness, yet no individual personality rating correlated with actual CEO success as measured by return on assets and return on equity. Moreover, distinct from judgments of North American CEOs (Rule and Ambady, 2008) but similar to judgments of Japanese CEOs (Rule et al., 2011b), Americans' ratings of leader effectiveness did not predict success for Chinese CEOs. Interestingly, ratings of willingness to take risks correlated with leadership performance, consistent with previous work on Chinese leadership styles (Wang et al., 2011). American raters did not incorporate this trait in their judgments of leader effectiveness, however. These findings support the interpretation of Rule et al. (2010b) that perceptions of leadership ability are based on attributions of traits associated with leadership quality within one's own culture.

### **CEO Appearance and Firm Performance Across Economic Climates**

Recent work suggests that the relationship between CEO appearance and firm performance is also affected by economic context. Research on the facial appearance of political leaders suggest that preferences for masculinity, attractiveness, trustworthiness, and the perceived age of a leader are all affected by leadership context (Little et al., 2007; Little et al., 2012; Spisak, 2012; Spisak et al., 2011). It is therefore conceivable that the predictive power of appearance on leadership success for CEOs is also influenced by contexts specific to business; namely, economic climate. Rule and Tskhay (2014) examined how the relationship between CEO appearance and company profit was altered by the global recession of the late 2000s. The recession, which culminated in 2008, is thought to have had deleterious effects on the economies of almost every nation (Imbs, 2010; Verick and Islam, 2010). Rule and Tskhay (2014) found that judgments of leadership predicted the financial performance of CEOs from Fortune 500 listings in years 2005-2008, but not for the years following the financial crisis of 2008 (2009-2011). The correlation between leadership judgments and company profits was significantly stronger before the crisis than after. A further study found that judgments of power from CEOs' faces, which were predictive of profit before the financial crisis (Rule and Ambady, 2008, 2009; Rule et al., 2011b) did not correlate with profit after the 2008 fiscal year.

Rule and Tskhay (2014) conducted a further study using the CEOs of top-ranked American and German companies from Fortune's Global 500: 2010 listing. The choice of list was deliberate, as the fiscal year corresponding to this listing (2009) immediately followed the economic crash of 2008. Germany's economy was less affected during the global recession and recovered at a much faster rate than most Western countries (Burda and Hunt, 2011). Thus, the study assessed whether the relationship between CEO facial appearance and financial performance differed across the economic climates of the United States and Germany. Consistent

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with their first study, perceptions of power-related traits failed to predict financial success for American CEOs for the 2009 fiscal year. Interestingly, perceptions of power-related traits did predict success for German CEOs for the 2009 fiscal year, retaining the same relationship found between perceived power and profit for American CEOs before the economic crisis of 2008. This study was the first to confirm that perceptions of power predicted CEO success in countries beyond the United States. Furthermore, these findings suggest that the relationship between facial appearance and the leadership success of CEOs depends on the economic climate. The dissipation of the relationship between CEO facial appearance and financial performance after the economic crisis in the United States may reflect the increasing general distrust and disdain of business leaders around this period (as evidenced in the subsequent “Occupy Wall Street” movement; Van Gelder, 2011). Powerful, dominant-looking faces are generally perceived as less trustworthy (Oosterhof and Todorov, 2008) and, indeed, the fWHR measure associated with company profits also negatively correlates with perceived and actual trustworthy behavior (Stirrat and Perrett, 2010). Thus, the powerful traits that were associated with leadership judgments and financial performance before that financial crisis (Rule and Ambady, 2008) may have been perceived as less trustworthy and less “leader-like” after the crisis when trust in business leaders was low.

## **CONCLUSIONS – IMPLICATIONS AND FUTURE DIRECTIONS**

### **Implications**

The studies reviewed in this chapter demonstrate that CEOs’ facial appearance can predict their companies’ financial performance. Collectively, this research provides evidence for ecological and evolutionary theories of social perception in that CEOs’ facial appearance affords social information that participants utilize in making accurate judgments of their leadership

quality. Such perceptual ability is likely the product of psychological adaptations that allow humans to identify individuals of high leader quality, as leadership has been an important part of group survival throughout human evolution (Riggio and Riggio, 2010; van Vugt, Hogan, and Kaiser, 2008; van Vugt and Ronay, 2013). In modern society, leadership is similarly important to survival and success in the business world (Barney, 1991; Barrick et al., 1991; Bertrand and Schoar, 2003). The studies in this chapter show that the same psychological developments that allowed for advantageous leadership selection throughout history also predict leader success today.

What should businesses do with this information? The authors of this chapter would be remiss to state that business leaders should be selected based on their facial appearance alone. Indeed, some of the studies reviewed here found effects of culture or economic climate that suppress the relationship between appearance and financial performance (Harms et al., 2012; Rule et al., 2011b; Rule and Tskhay, 2014), and history provides cautionary tales of what can happen if a leader is selected based primarily on looks (see The Warren Harding Error; Gladwell, 2005). Despite this, however, the studies reviewed here demonstrate that the traits theorized to have belonged to successful leaders throughout history – competence and power-related traits – correlate with perceptions of leadership ability and with financial performance for business CEOs. It is possible that this relationship exists due to the convergence of appearance and personality – i.e., the same biological or environmental factors that shape personality also shape appearance (Zebrowitz and Collins, 1997). Under this hypothesis, CEOs who look competent and powerful may also act that way, which, at least in the West (Den Hartog et al., 1999; Jung and Avolio, 1999), would predict leadership success in the form of financial performance. It is also possible that people naturally follow and defer to individuals who appear competent and

powerful, and that this trend is retained even at the highest levels of business, allowing CEOs possessing such an appearance to take control and outcompete rival businessmen. Whatever the reasoning behind the relationship between facial appearance and firm performance, it would seem that, after equating candidates on all other relevant hiring criteria, selecting CEOs who “look the part” may possibly confer an additional advantage in leadership that may result in greater financial gain.

### **Future Directions**

The studies described in this chapter demonstrate that facial appearance correlates with leadership success for CEOs of top-ranked companies but that this relationship is altered by culture, and economic climate. The contextual effects of the latter findings lay the foundation for a potential line of research examining what factors influence the relationship between CEO appearance and success. For example, studies of Japanese and Chinese CEOs show that perceived power does not predict leadership success as it does in Western cultures (Harms et al., 2012; Rule et al. 2011b), conceivably due to differences in preferred leadership style across culture (Den Hartog et al., 1999; Jung and Avolio, 1999). It is therefore unclear what attributions from facial appearance, if any, relate to CEOs’ leadership success in non-Western cultures. It is possible that facial characteristics associated with culturally-preferred leadership traits may correlate with CEO success in other cultures as well. Studies on political leadership decisions have found that people within a culture are better at predicting leadership selection than those from other cultures (Rule et al. 2010b). It would be prudent to examine whether CEO success can be accurately perceived by raters from cultures and nations not previously tested.

To date, the studies on CEO facial appearance have focused on finance-based measures of success, from company profits (Rule and Ambady, 2008, 2009; Rule et al., 2011b) to returns

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on assets (Harms et al., 2012; Wong et al., 2011) and returns on equity (Harms et al., 2012), and even CEOs' individual compensation (Livingston and Pearce, 2009; Rule and Ambady, 2008, 2009). It is possible that other measures of CEO success could be related to facial appearance, depending on the nature of the business. For example, one recent study found that the financial compensation of CEOs of nonprofit hospitals correlated with hospital size, teaching load, and technological status, but not with standard process patient outcome measures such as mortality or re-admission rates (Joynt et al., 2013). Extending these findings, it is possible that the facial appearance of hospital CEOs may correlate with some aspects of hospital success, such as technological prominence, but not others, such as patient outcomes (or vice-versa). Future research could assess relationships between facial appearance and in-depth measures of success for businesses with distinct industrial goals.

Facial appearance has a wide array of well-documented effects on real-world leadership selection (Rule and Ambady, 2010). The studies described in this chapter extend previous work to the apex of business leadership: the CEO. The studies conducted in this area are the first to show demonstrable relationships between facial appearance and objective measures of leadership success. These studies have examined the specific facial dimensions associated with CEO performance, and have linked appearance with several measures of financial gain. Furthermore, recent studies have shown that these effects differ across cultures, ethnicities, and economic conditions. It is worth noting that research examining the link between facial appearance and CEO success was discovered very recently – all of the studies described in this chapter have been published only since 2008. It is therefore very likely that there are many relationships between CEO appearance and firm success that have not yet been tested. Future research will likely investigate these relationships in ways not previously considered. Thus, new and exciting

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findings on the association between CEO appearance and corporate success are anticipated in the  
years to come.

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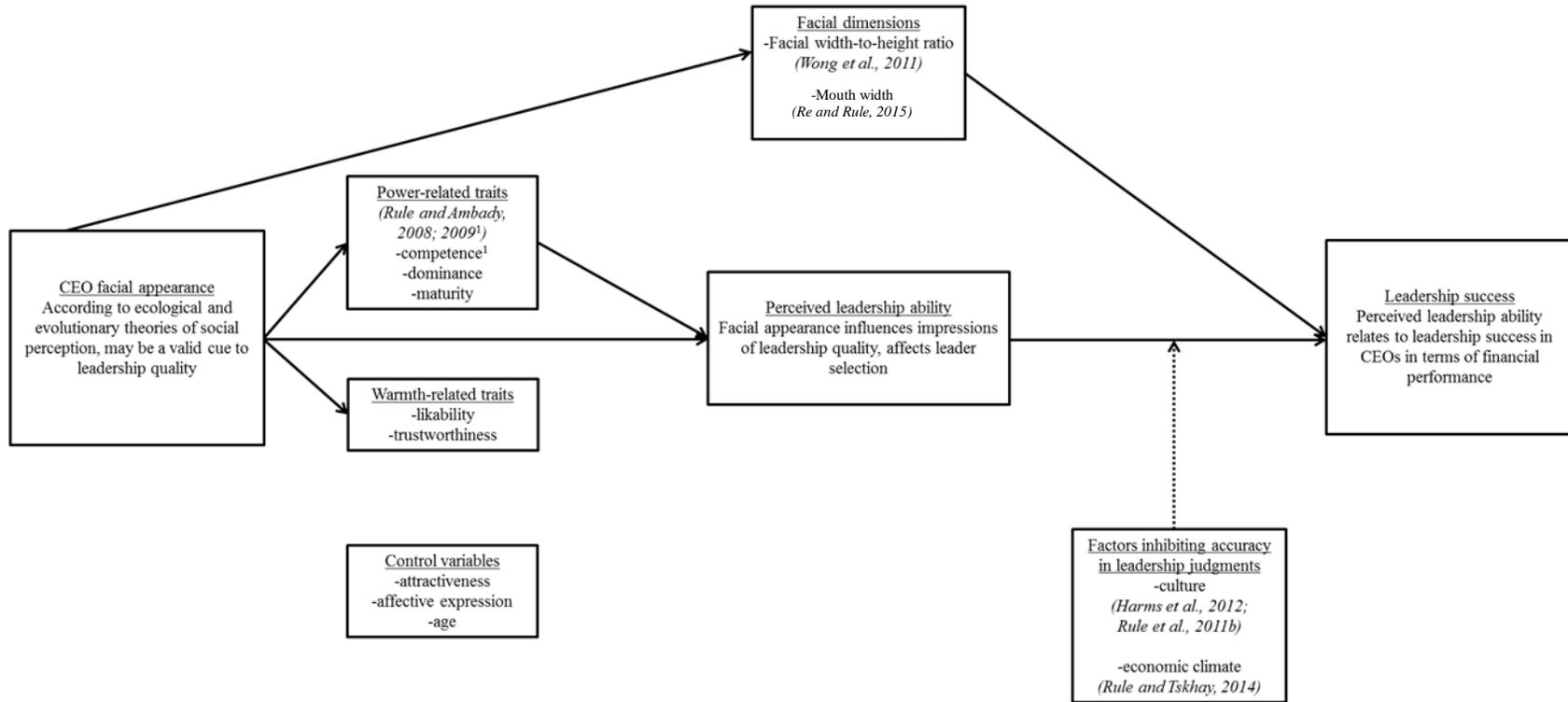


Figure 1. A theoretical framework for this chapter. Several studies have demonstrated relationships between CEO facial appearance and firm financial performance. The studies described in this chapter have found that facial appearance influences judgments of traits that predict impressions of leadership ability, which, in turn, correlate with leadership success in terms of financial performance. Other studies have found that facial dimensions such as facial width-to-height ratio and mouth width predict financial performance. Further research has demonstrated that the link between CEO facial appearance and financial performance is affected by cultural differences or economic climate.

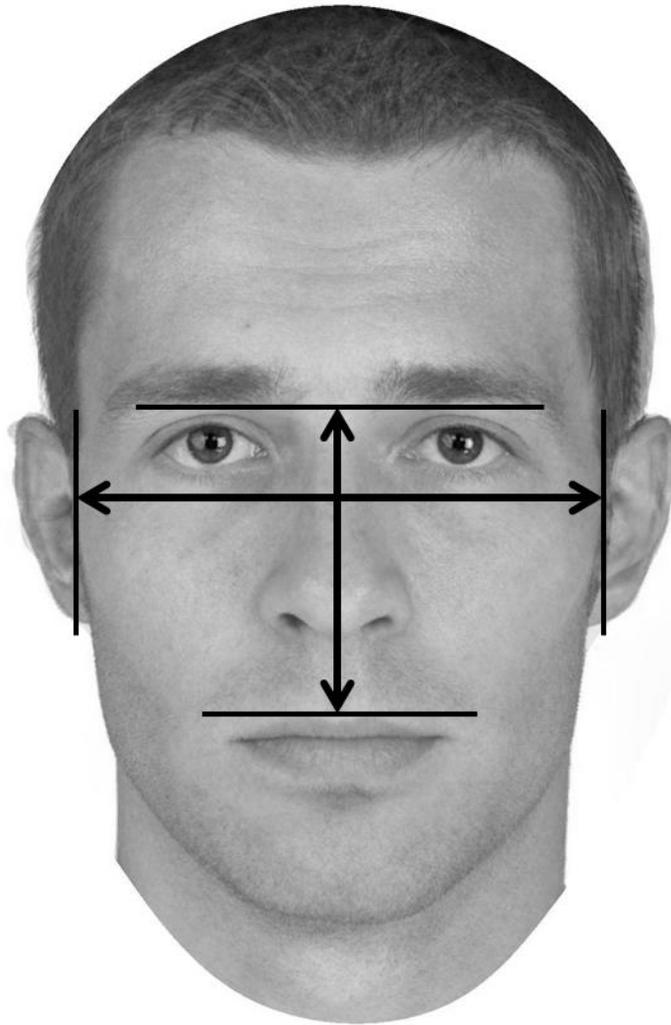


Figure 2. An example of facial width-to-height ratio (fWHR) measurement. Wong et al. (2011) found that fWHR correlated with financial success for CEOs of firms with leadership structures that were of low cognitive complexity.

Study	CEOs	Participants	Predictor variables	Method	Measure of financial performance
<b>Relationships between CEO facial appearance and financial performance</b>					
Rule and Ambady (2008)	Male CEOs, top- and bottom-ranked 25 companies of the Fortune 1000: 2006, n=50	100 undergraduate participants	Power composite <sup>1,2</sup> Perceived leadership <sup>2</sup>	Rated by participants	Net profits
Rule and Ambady (2009)	Female CEOs from Fortune 1000: 2006, n=20	170 undergraduate participants	Perceived leadership <sup>2</sup> , Perceived competence <sup>2</sup>	Rated by participants	Net profits
Rule et al. (2011a)	Top-25 and bottom-25 ranked companies of the Fortune 1000: 2006, n=49; 19 female CEOs from the Fortune 1000: 2006	16 right-handed undergraduates	Perceived leadership <sup>3</sup> Magnitude of left amygdala response <sup>3,4</sup>	Rated by participants; fMRI BOLD <sup>4</sup> signals	Net profits
<b>Facial dimensions related to CEO financial performance</b>					
Wong et al. (2011)	Male CEOs, Fortune 500: 1996-2002, n=55	None	Facial width-to-height ratio <sup>5</sup>	Measured from face	Return on assets

Re and Rule (2015)	Male CEOs, top-25 ranked companies, Fortune 500: 2006	423 online participants (Mechanical Turk)	Perceived leadership from internal features of the face, bottom half of the face <sup>6</sup> ; Measured width of the mouth	Rated by participants; measured from face	Net profits
<b>Effects of culture and economic climate on the relationship between CEO facial appearance and financial performance</b>					
Rule et al. (2011b)	<i>American CEOs: Male CEOs, top-25 and bottom-25 ranked companies of the Fortune 1000: 2006, n=50</i> <i>Japanese CEOs: Male CEOs from the Japanese subset of Fortune's Global 500: 2006, n=43</i>	135 undergraduates	<i>American CEOs:</i> American participants: power composite <sup>1</sup> <i>Japanese CEOs:</i> Japanese participants: power composite <sup>1</sup> <i>Japanese CEOs:</i> No significant predictor among American or Japanese participants	Rated by participants	Net profits
Harms et al. (2012)	CEOs from Chinese	105 university students	Perceived willingness to take risks <sup>7</sup>	Rated by participants	Return on assets; Return on Equity

	companies listed on the Hong Kong Stock Exchange (2008), n=71				
Rule and Tskhay (2014)	Top 50 American CEOs, Fortune 500: 2005-2011 German CEOs from Fortune 500 Global: 2010, n=37	196 online American participants; 140 undergraduate students	<i>American CEOs:</i> Power composite for CEOs from 2005-2008, not from 2009-2011 <sup>8</sup>  <i>German CEOs:</i> Power composite <sup>8</sup>	Rated by participants	Net profits

Table 1. Summary of previous studies examining the relationship between CEO facial appearance and the financial success.

<sup>1</sup> Power composite produced by averaging ratings of competence, dominance, and maturity.

<sup>2</sup> Controlling for CEO age, and ratings of affect and attractiveness.

<sup>3</sup> Controlling for affect and attractiveness.

<sup>4</sup> As determined by blood-oxygenation-level-dependent (BOLD) signal estimation in fMRI analysis.

<sup>5</sup> Controlling for company size, age of CEO, and baseline profits before the CEO was in power. Relationship found in businesses with leadership structures that were of low cognitive complexity.

<sup>6</sup> Ratings of faces cropped to the upper half of the face were not correlated with net profit.

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<sup>7</sup> As rated by American participants. Judgments of perceived leadership effectiveness, intelligence, dominance, supportiveness, and attractiveness all failed to predict success.

<sup>8</sup> Power composite produced by averaging ratings of dominance and maturity.