Chapter 5

Mirror, Mirror on the Wall,

Who Shows to Be the Best Leader of All?
Abstract
The present paper studies the relationship between facial characteristics of leaders and their perceived and actual leadership style and leadership effectiveness. A set of pictures of faces of organizational leaders was rated on the degree of babyfacedness and facial dominance. With this picture set a series of 3 substudies was conducted. The first study examined the expected leadership style of the leader, by having a group of participants unfamiliar with these leaders rate their leadership styles by just looking at the photo of the leader. Results showed that leaders with more babyfacedness were expected to show styles lower in agency and in communion. Leaders with more facial dominance were believed to show styles high in agency and less styles low in agency. Second, we examined the actual self-rated leadership style of the leader, by asking each leader to complete a leadership circumplex questionnaire (CLS). It was shown that leaders who are more babyfaced rate themselves higher on distrustful leadership. The third study investigated the actual other-rated leadership style and leadership effectiveness of these leaders. Each of the leaders was rated by one of their subordinates on the CLS and a leadership outcome measures. Study 3 confirmed the findings in Study 2 by demonstrating that subordinates also rate babyfaced leaders as more distrustful.
One of the quotes repeatedly found when studying the literature on facial characteristics is ‘don’t judge a book by its cover’. However, research suggests that very important judgments are made just by this ‘cover’ or, specifically, by a person’s face. A glance at someone’s face can act as an enormous source of information, which is not surprising given the fact that this intuitive perception is fast, effortless, and automatic (Kahneman, 2003). The surprise lies in the decisions we base on the impression that is formed in a blink of an eye.

Studies have shown that facial characteristics have great predictive value. For example, it has been shown that presidential elections can be quite accurately predicted from the pictures of the faces of the candidates alone (e.g., Martin, 1978; Todorov, Mandisodza, Goren, & Hall, 2005). Somehow the facial characteristics of these potential leaders made them more eligible to be elected. It seems people assess from a person’s face whether this person is expected to be effective as leader. The question remains what people base these judgments on. Little, Burriss, Jones, and Craig Roberts (2007) and Van Vugt and Spisak (2008) demonstrate that there is not one ‘effective face’. Their studies show that people choose a different leader, or different facial characteristics of a leader, in war or in peace time. This indicates that people make inferences about what characteristics a leader is likely to have based on that person’s face. Consequently, there are reasons to assume that different leader characteristics or behaviors are connected to different facial characteristics. However, to our knowledge it is not known whether indeed inferences about someone’s expected behavior are made based on facial characteristics and more importantly, whether these are accurately predicting behavior.

The present study aims to illuminate the relation between facial characteristics of leaders and leadership styles. First, we will examine whether people ascribe certain leadership styles to different faces. Second and more importantly, this study sets out to test whether the behavior that is ascribed to a person – in this case leadership style - accurately reflects the leadership styles a person shows (in the sense of corresponding to judgments made by leaders themself and their subordinates). Finally, we will explore the relation between facial characteristics and leadership effectiveness.
Numerous studies have shown that facial characteristics of leaders matter. Elections can be quite accurately predicted from pictures of the candidates. This is even the case when this prediction is made by children in the age range of 5-13 years and there is no possible familiarity with the candidates (Antonakis & Dalgas, 2009; Ballew and Todorov, 2007; Lawson, Lenz, Baker, & Myers, 2010; Martin, 1978; Todorov et al., 2005). These findings might indicate that people gather great amounts of information from facial characteristics. Research shows that within 100 milliseconds decisions are made about who to elect to lead a country, who is to win in gubernatorial elections, and who is going to be a senator (Ambady & Rosenthal, 1992; Olivola & Todorov, 2010). A favorable face does not only help in getting elected, it is also related to achievement variables like eventual military rank attainment (Mazur, Mazur, & Keating, 1984) and managerial financial success (Rule & Ambady, 2008; Wong, Ormison, Haselhuhn, 2011). What are the facial characteristics that can account for these differences?

**Facial Characteristics: Babyfacedness vs. Dominance**

We argue that two important facial characteristics can be distinguished that have shown to be important for impression formation. The first is defined as facial masculinity or facial dominance (Perrett, Lee, Penton-Voak, Rowland, Yoshikawa, Burt, Henzi, Castles, & Akamatsu, 1998). It has been shown that people prefer a dominant face when choosing a leader (Little et al., 2007). A dominant face is characterized by lower eyebrows and a receded hairline and is relatively broad (Keating, Mazur, & Segall, 1981). Mazur, Mazur, and Keating (1984) demonstrated that facial dominance predicted military rank attainment, in which more facial dominance predicted higher eventual rank. However, facial masculinity or dominance has been found to be negatively related to warmth, emotionality, honesty, and cooperativeness (Perrett et al., 1998), characteristics that are also valued in effective leadership styles.

The second facial characteristic important for how people are being perceived as leaders is facial immaturity or babyfacedness. Zebrowitz and Montepare (2005) argue that differences found in preferences for political candidates to be elected may be a result of differences in facial immaturity or babyfacedness. Babyfacedness is characterized by rounder and less
angular faces with large, round eyes, high eyebrows, small nose bridges, small chin, thick lips, and low vertical placement of features (e.g. Berry, & Zebrowitz, 1985; Montepare & Zebrowitz, 1998; Zebrowitz, 1997). Although babyfacedness is unrelated to age, people tend to ascribe more babyish characteristics to a babyfaced person. Babyfaced people are perceived as weaker, more submissive, more naïve, and less competent. On the positive side, babyfaced people are also perceived as warmer and more honest (Keating, 1981; Montepare & Zebrowitz, 1998; Zebrowitz, 1997).

Although previous work seems to point at the importance of facial characteristics in impression formation, it is unclear how these two face types relate to perceptions of leadership behavior. Moreover, it is unclear whether these stereotypical expectations based on someone's face actually influence their leadership behaviors such as coldness vs. warmth, and submissiveness vs. dominance.

A Circumplex of Leadership Behaviors: Communion vs. Agency

To study leadership styles, we will use a two dimensional model of leadership, the leadership circumplex. This model is based on the notion that almost all definitions of leadership refer to leadership as the process of influencing others, or the interpersonal interaction between leader and led (Vroom & Jago, 2007; Yukl, 2010). Interpersonal interactions are best summarized by the interpersonal circumplex. Therefore, Redeker, De Vries, Rouckhout, Vermeren, and De Fruyt (2012; Chapter 2) have developed a leadership circumplex, in which specific leadership behaviors are described.

In the circumplex, leadership behavior descriptive variables are summarized by two unrelated dimensions with variables on the circumference of the circular model spanned by these two dimensions. The dimensions in the leadership circumplex are highly similar to the interpersonal dimensions agency and communion (Freedman, Leary, Ossorio, & Coffey, 1951; Kiesler, 1983; Leary, 1957; Trapnell & Wiggins, 1990; Wiggins, 2003). One of the

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1 In line with existing literature (e.g., Zebrowitz & Montepare, 1998; Todorov et al., 2005), we decided to look at the facial dimensions of babyfacedness and dominance separately. However, it may be argued that these facial characteristics might be seen as two extremes on one dimension. Although we indeed find that babyfacedness and dominance are negatively correlated ($r = -0.70$), we decided to follow the existing literature and examine them as separate dimensions rather than unidimensional. Our findings might therefore speak to a broader range of faces, which could potentially consist of a combination of dominant and babyfaced characteristics (e.g., Zebrowitz & Montepare, 1998; Todorov et al., 2005).
benefits of a circumplex is that it is a model with a continuous ordering of leadership behaviors. Each behavior is related to the dimensions agency - defined as the condition of being a differentiated individual, which is manifested in strivings for mastery and power-, and/or communion - defined as the condition of being part of a larger social or spiritual entity, which is manifested in strivings for intimacy, union, and solidarity within that larger entity (Wiggins, 2003). The circumplex is divided into octants. These octants represent eight different leadership styles that can be differentiated based on their degree of agency and communion (see Figure 1 for a visualization of the CLS). Styles that are high in agency are named directive and inspirational leadership. On the other side of the agency axis are the styles that are low in agency, withdrawn and yielding leadership. Leadership styles that are highly communal were named coaching and participative leadership, while styles that are low in communion are named distrustful and authoritarian leadership. We chose to use the leadership circumplex in order to obtain a complete picture of the leadership behaviors. Furthermore, the axis defined in the leadership circumplex model appear to be highly valuable for testing the hypotheses in the present study. That is, the distinction made by the agency and the communion axis appear to be closely linked to the associations made with facial dominance and babyfacedness.
Figure 1. The leadership circumplex

Facial Information: Leadership Effectiveness and Perceived Behavior

Based on the above reasoning we predict that people will use the facial characteristics of someone to form an impression about this persons' leadership behaviors and effectiveness. Regarding effectiveness, Rule and Ambady (2010) found a negative relation between babyfacedness and leader success. Based on this finding and the previously discussed findings about the relation between facial dominance and outcome variables like military rank attainment and financial success (e.g., Mazur, Mazur, & Keating, 1984), we expect that facial dominant leaders will be perceived as more effective, compared to babyfaced leaders. Perceptions of specific leadership styles based on facial information lead to a set of different predictions. Based on the positive relationship between babyfacedness and perceptions of
warmth (e.g. Montepare & Zebrowitz, 1998), we expect babyfaced leaders to be perceived as more communal and thus be rated higher on coaching and participative leadership. Furthermore, the perception of babyfaced adults as being more weak, submissive, and naive (Montepare & Zebrowitz, 1998), leads us to expect that babyfacedness is associated with more submissive leadership, namely withdrawn and yielding leadership. Facial dominance has been related to perceptions of assertiveness, competence, and dominance (Olivola & Todorov, 2010). Therefore, we expect people to rate these leaders as more agentic, and thus, be rated higher on inspirational and directive leadership. Furthermore, facial dominance has been negatively related to perceptions of warmth (Perrett et al., 1998) and positively to perceptions of aggressiveness (Carré, McCormick, & Mondloch, 2009). This leads us to expect a positive relation between facial dominance and leadership styles close to the negative pole of the communion axis, namely authoritarian and distrustful leadership.

**Facial Information: Leadership Effectiveness and Actual Behavior**

Additionally, and arguably more importantly, the present study aims to examine the relationship between the facial characteristics of leaders and their actual leadership style as rated by themselves as well as their subordinates. Studies on zero-acquaintance situations, in which unacquainted individuals rate themselves and others on different dimensions, show that strangers can quite accurately rate another person’s personality (e.g. Paunonen, 1989). Based on the assumption that people can also accurately assess leadership styles, one would expect the actual leadership styles of the leaders to be similar to the expected styles. This would mean that people who are perceived to have more babyfacedness and are perceived to show more communal and less agentic behaviors, will also show more communal and less agentic behaviors in their actual leadership styles, as rated by themselves and their subordinates. Similarly, people who have a more dominant face should be perceived and expected to show more agentic and less communal behaviors and will score higher on agentic and lower on communal leadership as rated by themselves and subordinates as well.

Although this line of thought leads to very straightforward hypotheses predicting an overlap between perceived and actual behaviors based on facial characteristics, we expect that the story is more complicated than this. In this respect, Zebrowitz and Montepare (1998) suggest a babyface overgeneralization hypothesis, which posits that the responses to babies and the
accompanying facial cues might be overgeneralized to adults. In contrast to the widespread beliefs about babyfacedness, research has shown that when examining actual (rather than anticipated) behavioral characteristics, babyfacedness has been related to more hostility, higher assertiveness, being more negative, higher quarrelsomeness, higher levels of academic achievement in boys (Zebrowitz, Andreoletti et al., 1998; Zebrowitz, Collins, & Dutta, 1998), more delinquency (Zebrowitz, Andreoletti, et al., 1998), and more military awards in men (Collins & Zebrowitz, 1995). All these behaviors contradict the impressions of babyfaced individuals. The incongruency between facial type and actual behavior, especially found in men, has been labeled the self-defeating prophecy effect, whereby the undesirable expectations as a result of overgeneralizing the babyish characteristics to adults are countered by behaving in a contrary manner (Zebrowitz et al., 1998). These findings suggest that the inferences made from facial characteristics are not always similar to actual behavior and that people are not fully able to accurately assess characteristics from faces.

In sum, the literature on the accuracy of zero-acquaintance ratings would lead us to expect that assessments about leadership styles based on photos of a leader might be quite accurate and therefore overlap with self- and other-ratings of actual behaviors. However, especially for more babyfaced leaders, these ratings might be less accurate, because they might overcompensate for the expectations that people have. Therefore, the present study will explore the relation between the babyfacedness and facial dominance of the leader and the actual leadership styles and leadership effectiveness. To study this, pictures of actual leaders were collected, as well as different perspective ratings of their leadership styles and ratings of their effectiveness as a leader.

**Method**

This study consists of three parts. First, we collected photos of leaders, as well as their self-rated leadership style. Leaders in this study were operationalized as individuals being in a supervisory position. Second, we asked their subordinates to rate the leadership style of their leader. Third, we asked participants in a lab to rate the expected leadership style of these leaders, based solely on their photos. We used the same set of leaders for all three sub-studies, and used their self-reports, ratings of their subordinates, and ratings of their pictures by strangers in the lab to answer the questions of interest in our study.
Participants and procedure

The present study had four groups of participants, namely leaders, subordinates, lab-participants, and photo-raters. In the procedure-section the different role of each participant is explained. Data from the leaders and their subordinates were collected at a large retail organization in the Netherlands.

Leaders. There were 18 male and 11 female leaders. To prevent situational aspects of different organizations to have an effect on the data, all data was collected within one large retail company in the north of the Netherlands. The average age of the leader was 36.31 (SD = 6.68). They supervised an average of 23.21 subordinates (SD = 28.77). On average leaders indicated to work for the same employer for 6.79 years (SD = 4.83) and 4.01 years in the present position (SD = 4.23). Leaders worked 36.83 hours per week (SD = 3.05). Through the HRM office all leaders were approached personally and asked to fill out a questionnaire. The questionnaire was completed at an online testplatform. After the leaders filled in the questionnaire, the experimenter photographed each of the leaders’ faces. These photos were used in the laboratory studies. Finally, leaders were sent a feedback report on their leadership styles upon request.

Subordinates. Each leader was requested to ask one of their subordinates to rate them. Two leaders were rated by two of their subordinates and one leader had 5 subordinate-ratings (36 subordinates; 12 male; 24 female). Data of these subordinates were aggregated. Average age of the subordinates was 37.09 (SD = 10.73). On average subordinates worked for the same employer for 4.02 years (SD = 2.51) and 3.21 years in the present position (SD = 1.84). They worked 28.03 hours per week (SD = 9.15). On average, they were supervised by the leader for 1.29 years (SD = 1.20). All subordinates were asked to complete the questionnaire, in which they answered questions about the leadership styles and the effectiveness of their leader. Subordinates were approached personally by the experimenter, by e-mail, by their supervisor and through the intranet of the company. As with the leaders, the questionnaire was completed at an online testplatform.

Lab-participants. Twenty men and forty-four women participated as lab-participants. Their average age was 23.12 (SD = 8.55). Out of 64 participants, 62 indicated to be of Dutch nationality, one did not indicate nationality, and one indicated to be Greek. Thirty-eight
participants indicated to have a paid job. The lab-participants (not the same group as the
photo-raters) were asked to rate each leader photo on the CLS leadership styles. Faces of
male and female leaders were presented separately. In a cubicle, each lab-participant was
presented with photos of a leader and was then asked to what extent they thought the
presented leadership style was used by the person on the photo. Each lab participant rated
half of the photos, either the male-leader-subset or the female-leader-subsets. That is, in
total we used two different sets of pictures. Within a set of pictures, we used two different
orders to present the pictures. Thus, four photo-conditions were created, either the male or
female photo-set and either the first or second photo-order. The photo-conditions were
presented randomly, so that both male- and female-leader photo-subsets were rated by
both male and female participants. Lab-participants were paid for their participation.

Photo-raters. In order to separate the effects of leader sex, the photos of the leaders were
divided into a male and female subset. In a laboratory setting, each subset was rated by ten
participants (i.e., every photo was rated ten times). Therefore, in total there were 20 photo-
rating participants (10 male; 10 female; Mean age = 20.15, SD = 1.95). Male and female
participants were randomly assigned to each subset, so that each subsets was rated by both
male and female participants. No effects of sex of the participant on rated facial dominance
or babyfacedness were found. The participants rated the photos of the leaders on the facial
characteristics of the leader. Participants were assigned a cubicle and presented with the
individual photos sequentially (i.e., either the male or female leader subset). After the
participants made their ratings, they were thanked, debriefed and paid for their
participation.

Materials

Perceived leadership behaviors. The questionnaire used to measure leadership styles is the
Circumplex Leadership Scan (CLS). This is an operationalization of the Leadership Circumplex
developed by Redeker, De Vries, Rouckhout, Vermeren, and De Fruyt (2012; Chapter 2). The
questionnaire contains 116 items. Each item describes a leadership behavior located on the
circumference of the leadership circumplex (a circle spanned by two orthogonal, unrelated
dimensions very similar to the interpersonal dimensions agency and communion). Items are
located on the circle based on the strength of their relationship. The distance between
variables increases when the strength of the association decreases. Items are equally spaced on the circumference, therefore creating a circular continuum of leadership behaviors. The circumplex is divided into eight octants representing eight different leadership styles. Redeker, De Vries, Rouckhout, Vermeren, and De Fruyt (2012; Chapter 2) demonstrated that the CLS octants comply with the criteria of a true circumplex. Furthermore, they showed a high predictive validity and test-retest reliability of the CLS leadership styles.

The leadership styles, their definitions, and exemplar items can be found in Table 1. Cronbach’s alpha’s of the CLS octant scales in the present study were for leaders: Coaching ($k = 15; \alpha = .82$), inspirational ($k = 15; \alpha = .88$), directive ($k = 12; \alpha = .74$), authoritarian ($k = 15; \alpha = .79$), distrustful ($k = 15; \alpha = .72$), withdrawn ($k = 15; \alpha = .85$), yielding ($k = 15; \alpha = .81$), and participative ($k = 14; \alpha = .73$); and for subordinates: Coaching ($k = 15; \alpha = .96$), inspirational ($k = 15; \alpha = .93$), directive ($k = 12; \alpha = .82$), authoritarian ($k = 15; \alpha = .94$), distrustful ($k = 15; \alpha = .95$), withdrawn ($k = 15; \alpha = .90$), yielding ($k = 15; \alpha = .82$), and participative ($k = 14; \alpha = .85$) leadership.

Effectiveness. Leadership effectiveness was measured with nine items ($k = 9; \alpha = .96$). An example item is: ‘is very effective in his/her role as a leader’.

Perceived leadership style. In the lab-part of the study, participants were presented with the definitions of the 8 leadership styles of the CLS. The CLS is developed for actual leaders and their subordinates, and because the participants in the lab study did not interact with the leaders at any time, we believed it would be more appropriate to provide them with the broader leadership definitions. Definitions can be found in Table 1. Participants were asked to what extent they thought the person on the photo was likely to use the presented leadership style. Answers were given on a 5-point Likert scale ranging for 1 “not at all likely” to “very likely”. Interrater-reliability for each style was: Coaching ICC(1) = 0.11, ICC(2) = 0.77; Inspirational ICC(1) = 0.14, ICC(2) = 0.82; Directive ICC(1) = 0.08, ICC(2) = 0.72; Authoritarian ICC(1) = 0.13, ICC(2) = 0.81; Distrustful ICC(1) = 0.08, ICC(2) = 0.70; Withdrawn ICC(1) = 0.10, ICC(2) = 0.75; Yielding ICC(1) = 0.08, ICC(2) = 0.72; Participative ICC(1) = 0.10, ICC(2) = 0.76.
<table>
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<tr>
<th>Octant</th>
<th>Definition</th>
<th>Example items (number of items)</th>
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<tbody>
<tr>
<td>Coaching</td>
<td>Persons with a coaching leadership style tend to show their appreciation for their subordinates and let them know how important they are, they tend to stimulate their subordinates through positive communication and to listen to the opinion of their subordinates.</td>
<td>&quot;shows that staff members are important to him/her&quot;, &quot;gives support to staff members&quot;, &quot;asks for the staff’s opinion&quot; (k = 15)</td>
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<tr>
<td>Inspirational</td>
<td>Persons with an inspirational leadership style tend to stimulate and persuade subordinates through a clear vision, tend to act decisively when performance and/or organizational problems arise, and to motivate subordinates to perform optimally.</td>
<td>&quot;indicates clearly his/her role in the personal development of staff members&quot;, &quot;acts firmly in situations of crisis&quot;, &quot;sets clear objectives for the staff&quot; (k = 15)</td>
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<tr>
<td>Directive</td>
<td>Persons with a directive leadership style tend to try to reach success competitively, tend to actively monitor and correct subordinates, and to behave strictly towards subordinates.</td>
<td>&quot;supervises the work of the staff members carefully&quot;, &quot;has severe judgments about staff members&quot;, &quot;is competitive&quot; (k = 12)</td>
</tr>
<tr>
<td>Authoritarian</td>
<td>Persons with an authoritarian leadership style tend to force subordinates to obey them, tend to be harsh on subordinates, and to not accept criticism.</td>
<td>&quot;avoids friendly relationships&quot;, &quot;sets one-sidedly the expected performance level of the staff&quot;, &quot;gives orders in a compulsory way&quot; (k = 15)</td>
</tr>
<tr>
<td>Distrustful</td>
<td>Persons with a distrustful leadership style tend to be suspicious of the motives of subordinates, tend to be quick and negative in their judgment, and stay distant from their subordinates.</td>
<td>&quot;is suspicious&quot;, &quot;judges too quickly&quot;, &quot;does not allow staff members to organize their work themselves&quot; (k = 15)</td>
</tr>
<tr>
<td>Withdrawn</td>
<td>Persons with a withdrawn leadership style tend to be personally and professionally absent, tend to avoid confrontations and responsibilities, and to act too late when problems arise.</td>
<td>&quot;delays decisions&quot;, &quot;does not take responsibility&quot;, &quot;does not set the expected performance level&quot; (k = 15)</td>
</tr>
<tr>
<td>Yielding</td>
<td>Persons with a yielding leadership style tend to be very flexible when interacting with subordinates and to be hesitant to provide guidance, they tend to put the subordinates’ interest above to the company’s interest, and to avoid being the center of attention.</td>
<td>&quot;is inconspicuous&quot;, &quot;wants to please everybody&quot;, &quot;is able to subordinate the company’s interests to the staff’s interests&quot; (k = 15)</td>
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<tr>
<td>Participative</td>
<td>Persons with a participative leadership style tend to include subordinates in all processes, they tend to easily accept and incorporate subordinates’ propositions, and to show their understanding of the feelings and emotions of their subordinates.</td>
<td>&quot;makes certain decisions together with the staff&quot;, &quot;is tolerant&quot;, and &quot;allows staff members to do their work their own way&quot; (k = 14)</td>
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</table>
Photos. A photo was taken of each of the leaders after the leaders filled out the questionnaire. Photos were taken with a white background. Leaders were asked to have a neutral facial expression. Each photo was then rated on facial characteristics by 10 photo-participants. These participants were not in any way connected to one of the leaders on the photos. Photo-participants were asked to indicate for each male/female leader to what extent they thought each of the characteristic (babyfacedness or dominance)\(^2\) applied to the face on the photo. Interrater-reliability was for babyfacedness ICC(1) = 0.28 and ICC(2) = 0.79; and for dominance ICC(1) = 0.26 and ICC(2) = 0.78. The correlation between ratings of babyfacedness and facial dominance was negative (\(r = -.70, p < .001\)).

Results

Although the data was collected in a different order, for the sake of clarity and in keeping with the theoretical introduction, the results will be discussed by starting with the photo-raters and lab-participants, followed by the leaders’ self-ratings and the subordinate’s ratings of the leadership styles. The relations between the facial characteristics of the leaders, based on the ratings of the photos, and the ratings of leadership styles and leadership effectiveness are reported. All reported significance-coefficients were tested two-tailed. Due to the relatively small sample size, we also describe the correlations that are marginally significant (\(p < .10\)).

**Correlations between effectiveness and leadership style ratings and facial characteristics of leader**

No significant correlations were found between the facial characteristics of the leaders, as rated by the photo-raters, and their effectiveness, as rated by the subordinates of the leader.

Table 2 shows the correlations between the rated dominance/babyfacedness in the leaders’ face and the expected leadership styles rated by the lab-participants. Facial dominance was positively related to ratings of inspirational (\(r = .45, p = .02\)), directive (\(r = .60, p < .001\)), and

\(^2\)The photos were rated on eight facial characteristics (masculinity, femininity, dominance, babyfacedness, attractiveness, reliability, diligence, and symmetry). However, for this study only the ratings of babyfacedness and facial dominance were used.
authoritarian leadership ($r = .56, p < .001$). It was negatively related to withdrawn ($r = -.67, p < .001$) and yielding leadership ($r = -.61, p < .001$). Babyfacedness was negatively related to directive ($r = -.49, p = .01$) and authoritarian leadership ($r = -.41, p = .04$). It correlated positively with withdrawn ($r = .47, p = .02$) and yielding leadership ($r = .55, p < .001$).

In sum, we expected facial dominance leaders to score relatively high on agentic leadership styles and relatively low on communal styles. For babyfaced leaders, we predicted that they would score relatively high on communal styles and relatively low on agentic leadership styles. Our hypotheses were partly confirmed. Babyfacedness was positive related to styles low in agency and negatively to styles both high in agency and low in communion, namely directive and authoritarian leadership. However, it was not related to styles high in communion. Facial dominance was positively related to styles high in agency, namely authoritarian, directive, and inspirational leadership. It was negatively related to styles low in agency, namely participative, yielding, and withdrawn leadership.

**Correlations between CLS self-ratings by leaders and facial characteristics of leader**

In Table 2, the correlations between the facial characteristics of the leader and the leaders’ self-ratings of his/her leadership style are shown. Facial dominance of the leader was marginally negatively related to self-ratings of authoritarian leadership ($r = -.34, p = .08$). Babyfacedness was positively related to distrustful leadership ($r = .51, p = .01$) and marginally positive to authoritarian leadership ($r = .32, p = .09$). Thus, facial dominant leaders perceived themselves as less authoritarian. Babyfaced leaders perceived themselves as more distrustful and authoritarian.

**Correlations between CLS ratings by subordinates and facial characteristics of leader**

When the leadership style was rated by the subordinates of the leader (Table 2), facial dominance was marginally negatively correlated with authoritarian leadership ($r = -.34, p = .08$). Babyfacedness was marginally negatively related to subordinate-ratings of participative leadership ($r = -.33, p = .09$). It was positively related to distrustful ($r = .39, p = .04$), and marginally to authoritarian ($r = .35, p = .06$), and withdrawn leadership ($r = .31, p = .10$). In sum, facial dominant leaders were perceived by their subordinates as less authoritarian. Babyfaced leaders were perceived by their subordinates as more distrustful, authoritarian,
and withdrawn, and less participative. These findings show that also subordinates tend to rate leaders with a babyface as higher on non-communal leadership styles.

Table 2. Correlations between babyfacedness/ facial dominance and leadership styles rated in lab, self-rated, and subordinate-rated

<table>
<thead>
<tr>
<th></th>
<th>Expected Leadership</th>
<th>Self-rated Leadership</th>
<th>Subordinate-rated Leadership</th>
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<tbody>
<tr>
<td></td>
<td>Babyface</td>
<td>Dominance</td>
<td>Babyface</td>
</tr>
<tr>
<td>Coaching</td>
<td>-.19</td>
<td>.19</td>
<td>-.18</td>
</tr>
<tr>
<td>Inspirational</td>
<td>-.33</td>
<td>.45**</td>
<td>-.03</td>
</tr>
<tr>
<td>Directive</td>
<td>-.49**</td>
<td>.60****</td>
<td>.27</td>
</tr>
<tr>
<td>Authoritarian</td>
<td>-.41**</td>
<td>.56****</td>
<td>.32*</td>
</tr>
<tr>
<td>Distrustful</td>
<td>-.09</td>
<td>-.02</td>
<td>.51**</td>
</tr>
<tr>
<td>Withdrawn</td>
<td>.47**</td>
<td>-.67****</td>
<td>.19</td>
</tr>
<tr>
<td>Yielding</td>
<td>.55***</td>
<td>-.67****</td>
<td>.12</td>
</tr>
<tr>
<td>Participative</td>
<td>.08</td>
<td>-.61</td>
<td>-.11</td>
</tr>
</tbody>
</table>

* p < .10; ** p < .05; *** p < .01

Discussion

The aim of the present study was to examine the relations between the facial characteristics of the leader and the expected and actual leadership style/effectiveness. We specifically focused on facial dominance and babyfacedness because these characteristics have been shown to be important predictors of leadership outcomes in previous studies (e.g., Perrett et al., 1998; Zebrowitz & Montepare, 1998).

Although we expected facial dominance to be positively related to leadership effectiveness, there was no significant correlation between either facial dominance or babyfacedness and the subordinate-rated effectiveness of a leader. When studying the expected leadership styles, in which participants were shown only the picture of the leader, we found that babyfaced leaders were perceived as showing more yielding and withdrawn leadership. This is in line with previous findings linking babyfacedness to perceptions of submissiveness, weakness, and incompetence (Zebrowitz, 1998). Previous studies also showed a relation between babyfacedness and perceived warmth, but the present study did not find support...
for a relationship between babyfacedness and the more communal leadership styles, i.e., coaching and participative leadership. Facial dominant leaders were expected to show more inspirational, directive and authoritarian leadership, which is in line with previous findings linking facial dominance to assertiveness, dominance, and competence.

However, we also mentioned Zebrowitz’ findings that the babyfaced are in fact sometimes showing behaviors opposite from what is expected based on the overgeneralization hypothesis (characteristics of babies are generalized to adults). In line with these finding we found that babyfacedness was positively related to self-rated distrustful and authoritarian leadership. Thus, babyfaced leaders perceived themselves as more distrustful and authoritarian. Furthermore, babyfacedness was negatively related to subordinate-ratings of participative leadership, and positively to distrustful and authoritarian, and withdrawn leadership. Thus, babyfaced leaders were perceived by their subordinates as more distrustful, authoritarian, and withdrawn, and less participative. Zebrowitz et al. (1998) called this the self-defeating prophecy effect, whereby babyfaced people contradict the expected babylike behaviors by acting in a contrary way. Our findings partly support this effect in that babyfaced leaders as well as their subordinates rated them as less warm (i.e., the negative pole of the communion axis). However, in the present study the leaders did not act in a fully contradictory way. Based on the properties of a circumplex, opposite behaviors of the expected styles for babyfaced leaders, namely the styles low in agency - withdrawn and yielding leadership -, would have been the styles high in agency, namely inspirational and directive leadership. That is, the expected styles for more babyfaced leaders were yielding and withdrawn leadership, two styles on the lower side of the circumplex, opposite from inspirational and directive leadership on the upper side of the circumplex model. However, babyfaced leaders were rated higher on behaviors that were characterized by their negative relation with communion (on the left side of the circumplex). Studies on the predictive validity of the circumplex styles (Redeker, De Vries, Roukhout, Vermeren, & De Fruyt, 2012, Chapter 2) show that the styles on the left side, lower left side and lower side are rated as least effective. Thus, although babyfaced supervisors may try to compensate for ineffective behavioral expectations of others, they seem to behave more in line with equally ineffective leadership styles.
Previous studies found the self-defeating prophecy effect for male participants only. For female participants, either no effect or the opposite effect was found. The childlike stereotype is closer to the female stereotype (Zebrowitz, Collins, et al., 1998), therefore, not acting contrary to the expectations might indicate a self-fulfilling prophecy effect for women (Zebrowitz & Montepare, 2008). We demonstrated contrary behaviors for the more babyfaced leaders for our entire sample. Due to the limited size of our sample we were not able to assess possible gender differences. Future research should examine the role of gender in the relation between facial characteristics and leadership behaviors. For the scope of this paper we chose to examine a group of leaders at one level within one organization, aiming to eliminate as many situational factors as possible.

Although we purposely chose to study a group of leaders within one organization this raises a limitation as well. Focusing on the leaders within one organization limits the generalizability of the results. The effects of babyfacedness and facial dominance might be different in organizations which are, for example, either more feminine, such as a health care organization, or more masculine, such as a financial organization. Moreover, Livingston and Pearce (2009) showed that although babyfacedness might be negatively related to leadership outcome variables in white leaders, black leaders might benefit from having a babyface. Therefore, future studies might benefit from focusing on a broader range of organization, providing a broader sample of leaders. Another limitation is the design of the study. As a result of focusing on actual leadership styles in real organizations, we were not able to analyze the process regarding the relation between facial characteristics and leadership. Due to the design of the study, it was not possible to manipulate the examined variables. Therefore, we can only speculate about what is causing the effects we found. Another limitation is the strong negative correlation between the two facial characteristics ($r = -.70$). Based on this correlation, it may be argued that facial dominance and babyfacedness may be two poles of the same dimension. In line with previous research (e.g., Zebrowitz & Montepare, 1998; Todorov et al., 2005) that tends to study either facial dominance or babyfacedness, we decided to study these characteristics separately. However, future research may benefit from examining whether facial dominance and babyfacedness may be studied as two poles on one dimension instead.
Nevertheless, the present paper studies a fairly unexamined area by not only looking at the expected behaviors based on facial characteristics, but also showing the relation between these facial characteristics and the actual behaviors people show. Moreover, the present paper demonstrated that there is a discrepancy between expected leadership styles and the actual leadership styles, as measured by the circumplex leadership scan, especially for babyfaced leaders. By showing that there is a discrepancy between the perceptions and the actual behaviors of babyfaced leaders, it is underlined that one should not ‘judge a book by its cover’.