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Reports

Guilty by mere similarity: Assimilative effects of facial resemblance on automatic evaluation ☆

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HIGHLIGHTS

- Unknown faces elicited the same automatic evaluations as known faces they resembled.
- Valence-congruent resemblance effects emerged for positive and negative known faces.
- Results suggest assimilation of unknown faces to existing representations of known faces.
- Similarity-based activation of evaluative knowledge can override fluency effects.

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ABSTRACT

Drawing on previous evidence for affective generalization in face perception, the current research investigated the effects of facial similarity on automatic evaluations of unknown individuals who resemble a known person of positive or negative valence. Using 50% morphs that combined a known face of positive or negative valence with an unknown face of neutral valence, the morphed faces elicited the same automatic evaluations as the known faces they resembled. Automatic evaluations of known faces were indistinguishable from responses to perceptually similar unknown faces, suggesting that resemblance effects on automatic evaluations involve an assimilation of unknown faces to existing representations of known faces. Moreover, valence-congruent resemblance effects emerged for both positive and negative targets, suggesting that similarity-based activation of evaluative knowledge can override the affective positivity resulting from the higher fluency of processing familiar faces. Implications for research on face perception, transference, and processing fluency are discussed.

Introduction

Imagine a situation in which you encounter an unfamiliar passer-by somewhere on a crowded street. You have never met this person before, but you notice an immediate positive (negative) reaction toward that person. You have no idea where your reaction is coming from until you realize that this person has a strong resemblance to an old friend (foe) from college. Although this scenario is merely hypothetical, we suspect that many readers can recall experiences that are similar to our introductory example. The central point of this example is that our reactions to unknown individuals are often influenced by their resemblance to people we know, and these influences may occur even when we fail to consciously recognize their resemblance as a source of our reaction.

Expanding on previous evidence for the impact of facial resemblance on responses to unknown individuals (e.g., Günaydin, Zayas, Selcuk, & Hazan, 2012; Kraus & Chen, 2010; Verosky & Todorov, 2010), the main goal of the current research was to investigate facial-resemblance effects on automatic evaluations. Specifically, we investigated whether affective generalization resulting from facial resemblance occurs rapidly without perceivers' intention to evaluate the target person. In addition, we were interested in whether such effects reflect the objective degree of similarity between known and unknown faces or if they instead involve an assimilation of unknown faces to existing representations of known faces. Whereas the former account implies a linear increase in facial-resemblance effects as a function of increasing similarity, the latter account suggests that unknown faces may elicit the same automatic evaluations as the known faces they resemble.

Resemblance effects in impression formation

The notion that evaluative responses to unfamiliar people can be influenced by their resemblance to known individuals has considerable support in the literature on impression formation. A classic study by Lewicki (1985) demonstrated that participants' choice of interaction

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partners was influenced by the quality of their preceding experience with another person that resembled one of the two potential partners (i.e., short hair, glasses vs. long hair, no glasses). When the preceding interaction was pleasant, participants were more likely to choose the person that resembled the previous interaction partner. If, however, the preceding interaction was unpleasant, participants were more likely to choose the person that looked dissimilar to the previous interaction partner. Interestingly, participants did not seem to be aware of this influence, but instead perceived their choice as completely random and unaffected by the perceptual similarity of the interaction partners.

A more systematic investigation by Verosky and Todorov (2010) provided further support for resemblance effects in face perception. In their study, participants formed impressions of various faces on the basis of positive or negative descriptions, and then rated the trustworthiness of morphed faces that combined novel faces with the familiar faces of the impression formation task. Although the morphed faces were created to be more similar to the novel faces compared with the familiar faces (65% and 80% novel faces vs. 35% and 20% familiar faces, respectively), participants evaluated the morphs more favorably when they resembled a face that was presented with positive descriptions than when they resembled a face that was presented with negative descriptions. Moreover, affective generalization from familiar to unfamiliar faces increased as a function of similarity, in that resemblance effects were stronger for morphed faces that showed higher similarity to the familiar faces.

Resemblance effects in transference

Resemblance effects also play a major role in research on transference in romantic relationships (Andersen & Chen, 2002; Chen & Andersen, 1999). The concept of *transference* is defined as the spontaneous activation of the representation of a significant other in response to another person as a result of shared attributes of the two individuals. A central determinant of transference effects is perceptual resemblance, which has been shown to produce representation-consistent trait inferences (Andersen & Cole, 1990) and representation-consistent evaluations (Andersen & Baum, 1994) of unknown individuals. In addition, transference has been shown to involve shifts in the working self-concept, such that people who resemble a significant other elicit thoughts, feelings, goals, and behaviors that are typical for one's interactions with the significant other (Andersen & Chen, 2002).

A recent study by Kraus and Chen (2010) showed that the three hallmark effects of transference can also occur as a result of facial resemblance. In their study, participants initially identified a positively evaluated significant other and were asked to rate this person on various characteristics and their own characteristics when they are with that person. In addition, participants were asked to rate a large set of faces in terms of their resemblance to their significant other. Approximately two weeks later, participants returned for an ostensibly unrelated study in which they were shown one of the faces that had to be rated during the first session. Participants were told that they would later interact with this person as part of a buddy program being implemented at the university. Using the facial resemblance ratings obtained during the first session, the target face was selected to be either highly similar or highly dissimilar to a participant's significant other. After familiarizing themselves with their ostensible interaction partner, participants were asked to rate the target on the various characteristics and their own characteristics at that moment. Results showed that participants' responses were consistent with their previous ratings when the target face was similar to their significant other, but not when the target face was dissimilar to their significant other.

Expanding on Kraus and Chen's (2010) research, Günaydin et al. (2012) provided evidence for transference effects on trait judgments resulting from objective facial resemblance to a significant other. Instead of using subjective ratings of similarity provided by the participants, Günyadin et al. created several 50% morphs that combined an unfamiliar face with the face of a participant's romantic partner. The results showed that the morphed faces were rated more favorably compared with novel faces that did not resemble participants' romantic partner. This effect was positively related to relationship satisfaction and unrelated to measures of subjective awareness (i.e., self-reported resemblance of the target to the significant other) and objective awareness (i.e., forced-choice discrimination between faces that do versus do not resemble the romantic partner) of the resemblance.

The current research

Drawing on the reviewed evidence for facial-resemblance effects on responses to unknown individuals (e.g., Günaydin et al., 2012; Kraus & Chen, 2010; Lewicki, 1985; Verosky & Todorov, 2010), the current research had three goals. Our first goal was to investigate whether facial resemblance influences automatic evaluations of unknown faces. Although some studies have used relatively short exposure times for the presentation of the target faces (e.g., 500 ms in Günaydin et al., 2012), previous research has exclusively relied on self-report measures of evaluation. Evaluative responses assessed by these measures are "controlled" in the sense that they involve the intention to evaluate the target and unlimited time to make the relevant judgment (see De Houwer, Teige-Mocigemba, Spruyt, & Moors, 2009). To investigate facial-resemblance effects on automatic evaluations, the current research used an evaluative priming task (Fazio, Jackson, Dunton, & Williams, 1995). Evaluations captured by this task are "automatic" in the sense that they occur without participants' intention to evaluate the relevant target object (see De Houwer et al., 2009). In addition, responses on evaluative priming tasks have to be made quickly and the exposure times tend to be even lower compared to those in previous research in facial-resemblance effects (200 ms in the current research).

An important aspect in this regard is the difference between automatic features of the cause of an evaluative response and automatic features of the evaluative response itself (Gawronski & Bodenhausen, 2012). Previous research has shown that facial resemblance can influence self-reported evaluations even when perceivers fail to recognize the resemblance between known and unknown faces (e.g., Günaydin et al., 2012). On the basis of these findings, one could argue that causal effects of facial resemblance are "automatic" in the sense that facial resemblance influences self-reported evaluations outside of conscious awareness. Moreover, because intentional use of facial resemblance as a judgment-relevant cue requires conscious awareness of the resemblance, its causal effect could be argued to be unintentional if perceivers fail to recognize the resemblance (Bargh, 1994). However, these considerations speak only to the automatic nature of the cause of an evaluative response; they do not speak to the automatic nature of the evaluative response itself. Thus, it is possible that facial-resemblance effects are limited to conditions when perceivers have the intention to evaluate the target person and when they have enough time to think about their response, as is the case for controlled evaluations captured by self-report measures (Ferguson & Zayas, 2009). For example, although facial resemblance may influence deliberate responses in personal interactions that involve the goal to form an impression of the target and sufficient time to do so, spontaneous responses to a random passerby on a crowded street might be unaffected by facial resemblance. A stringent test of the latter assumption requires alternative measures, such as the evaluative priming task employed in the current study. Evaluative responses captured by this measure are "automatic" in the sense that they occur rapidly without the intention to evaluate the target object (De Houwer et al., 2009).

Granted that our study shows evidence for facial-resemblance effects on automatic evaluations, a second goal was to investigate whether these effects reflect the objective degree of similarity between known and unknown faces or if they instead involve an assimilation of unknown faces to existing representations of known faces. According to the

principle of objective similarity, resemblance effects on automatic evaluation should show a linear increase as a function of increasing similarity. This prediction stands in contrast to the notion of assimilation effects, which implies that unknown faces that are assimilated to the representation of a known face may elicit the same automatic evaluations as the known face. In the current study, we tested the two alternative outcomes by using 50% morphs of known and unknown faces. For these materials, the principle of objective similarity implies an averaging effect, such that automatic evaluations of 50% morphs should fall in-between the baseline evaluations obtained for the known and unknown faces that have been used to create them. Yet, to the extent that 50% morphs pass the critical threshold of perceptual resemblance, the principle of assimilation implies that automatic evaluations of the morphs may show the same extremity as the baseline evaluations of the known faces they resemble.

Finally, a third goal of our study was to demonstrate these effects for faces that resemble either positive or negative non-significant others with minimal acquaintance. The focus on non-significant others with minimal acquaintance was inspired by earlier evidence showing that resemblance effects in face perception may be more general than transference effects resulting from resemblance to significant others (e.g., Verosky & Todorov, 2010). Moreover, because automatic positivity toward unknown faces that resemble a positively evaluated person could be due to either (a) similarity-based activation of evaluative knowledge or (b) affective positivity resulting from the higher fluency of processing faces with familiar features (see Winkielman & Cacioppo, 2001), it is important to demonstrate the generality of facial-resemblance effects for both positive and negative targets. Whereas fluency-related positive affect should lead to *favorable* evaluations of unknown faces that resemble a known face with negative valence, similarity-based activation of evaluative knowledge should lead to *unfavorable* evaluations of unknown faces that resemble a known face of negative valence (see Winkielman, Huber, Kavanagh, & Schwarz, 2012). To the extent that the latter prediction can be confirmed, our data would also provide important information about the boundary conditions of fluency effects.

To test these hypotheses, participants were asked to form impressions of unknown target faces on the basis of positive or negative behavioral descriptions. In a subsequent evaluative priming task, participants were presented with the faces of the impression task, new faces that have not been presented before, and 50% morphs that combined one of the faces of the impression formation task with one of the new faces. We expected that the morphs would elicit automatic evaluations that are consistent with the valence of the known faces they resemble. Moreover, processing of objective similarity was expected to produce automatic evaluations of the morphs that fall in-between the ones obtained for the known and unknown faces. In contrast, assimilative processing was assumed to be reflected in evaluations that are equivalent to the ones elicited by the known faces. Finally, we expected these effects to emerge for both positive and negative targets, reflecting similarity-based activation of evaluative knowledge rather than increased processing fluency.

Method

Participants and design

Ninety-eight summer students at The University of Western Ontario (72 females, 26 males) were recruited for a study on impression formation. Subjects received CDN-$10 as a compensation for their participation. The study used a 3 (Valence of Target Individual: positive vs. neutral vs. negative) × 3 (Facial Resemblance to Target Individual: 100% vs. 50% vs. 0%) within-subjects design.

Materials

To manipulate facial resemblance, we selected six pictures of perceptually dissimilar White males of approximately 20 to 30 years of age. Using these pictures, we generated three pairs of faces which were used to create three 50% morphs, one for each pair.[2] Thus, each of the resulting sets included one face to be used as the target face (100%), an individually paired face that did not resemble the target (0%), and a morphed face that was created on the basis of the target face and the individually paired face (50%). The three face sets were counterbalanced across the three valence conditions (i.e., positive, neutral, negative). In addition, we counterbalanced which of the two original faces within a given set was used as the target face (100%) versus the individually paired face that did not resemble the target (0%).

Impression formation task

In a first phase of the study, participants were asked to form an impression of two individuals on the basis of evaluative information about these individuals. For this purpose, participants were asked to imagine that they had just started a new job and that they are interested in getting a first impression of their new colleagues (Gawronski, Walther, & Blank, 2005). Participants were then presented with evaluative information about two target individuals. One of them was presented with 10 positive statements and the other one was presented with 10 negative statements (see Appendix A). The statements were presented one-by-one for 6000 ms at the bottom of the screen with the face of target individual being simultaneously displayed on the top of the screen. The intertrial interval was 1000 ms. Order of trials was randomized individually for each participant. The faces of the third set served as control stimuli for the neutral valence condition. These faces were not presented with evaluative information during the impression formation task.

Distracter task

After the impression formation task, participants were asked to complete a short distracter task in which they were presented with 30 novel faces. Participants were instructed to memorize the faces. Each face was presented for 3000 ms on the screen with an intertrial interval of 1000 ms. The distracter task was included to erase the initially presented information from short-term memory, thereby establishing the presumed long-term nature of the obtained effects.

Automatic evaluation

After the distracter task, participants completed an evaluative priming task (Fazio et al., 1995) designed to assess automatic evaluations of the three target faces, the three individually paired faces, and the three morphs that have been created from these faces. Each trial of the priming task started with a fixation cross for 500 ms in the center of the screen. The fixation cross was followed by a face prime for 200 ms, which was then replaced by a positive or negative word (SOA = 200 ms). Participants' task was to indicate as quickly as possible whether the word was positive or negative. As positive words we used *paradise*, *summer*, *harmony*, *freedom*, *honesty*, *pleasure*, *sunrise*, *love*, *peace*, and *vacation*. The negative words were *cockroach*, *poison*, *vomit*, *bomb*, *virus*, *disaster*, *terror*, *rotten*, *accident*, and *pollution*. Each of the nine face primes was presented once with each of the 10 positive words and once with each of the 10 negative words. In addition, we included several control trials that used a gray square as the prime stimulus (Payne, Cheng, Govorun, & Stewart, 2005). As with the face primes, the control prime was paired once with each of the 10 positive and 10 negative words. Thus, the total number of trials was 200. The intertrial interval was 1000 ms. Incorrect responses were followed by the word *ERROR!* for 1500 ms in the center of the screen.

[2] The stimulus materials are available on request from the authors.

Results

Prior to analyses, outliers were excluded by discarding response latencies lower than 300 ms and higher than 1000 ms (4.3%); error trials were excluded from analyses (4.1%).[3] We then calculated facilitation scores for positive words by subtracting the mean response latencies to positive words following the control prime from the mean response latency to positive words following a given face prime (Wentura & Degner, 2010). Facilitation scores for negative words were calculated accordingly by subtracting the mean response latencies to negative words following the control prime from the mean response latency to negative words following a given face prime. Facilitation scores for negative words were subtracted from facilitation scores to positive words, providing an index of automatic evaluation for each of the nine face primes. On this baseline-corrected index, higher scores reflect more favorable evaluations and lower scores lower reflect less favorable evaluations.

Submitted to a 3 (Target Valence) × 3 (Facial Resemblance) ANOVA for repeated measurement, automatic evaluations revealed a significant two-way interaction, $F(4, 384) = 3.83$, $p = .005$, $\eta_p^2 = .038$ (see Fig. 1). Broken down by target valence, automatic evaluations significantly differed as a function of facial resemblance within the positive target condition, $F(2, 192) = 3.46$, $p = .03$, $\eta_p^2 = .035$, and the negative target condition, $F(2, 192) = 3.03$, $p = .05$, $\eta_p^2 = .031$, but not within the neutral target condition, $F(2, 192) = 1.16$, $p = .31$, $\eta_p^2 = .012$. Moreover, broken down by facial resemblance, automatic evaluations significantly differed as a function of target valence for the original targets of the impression formation task (100%), $F(2, 192) = 7.22$, $p = .001$, $\eta_p^2 = .070$, and the morphs that resembled these targets (50%), $F(2, 192) = 7.29$, $p = .001$, $\eta_p^2 = .071$, but not for the novel faces (0%), $F(2, 192) = 0.41$, $p = .66$, $\eta_p^2 = .004$.

Simple-effects analyses specified the obtained two-way interaction showing that the original target faces of the impression formation task elicited more favorable evaluations when they had been presented with positive information than when they had been presented with negative information, $t(96) = 3.54$, $p = .001$. More importantly, the same effects were obtained for morphed faces that resembled the target faces. These faces elicited more favorable evaluations when they resembled a target of positive valence than when they resembled a target of negative valence, $t(96) = 3.50$, $p = .001$. Unknown faces that did not resemble any of the targets did not differ across target valence conditions (all $ts < 1$, all $ps > .40$).

Further analyses revealed that automatic evaluations of known positive targets did not differ from automatic evaluations of morphed faces that merely resembled these targets, $t(96) = 0.32$, $p = .75$, though both significantly differed from automatic evaluations of unknown faces that did not resemble the known targets, $t(96) = 2.36$, $p = .02$ and $t(96) = 2.07$, $p = .04$, respectively. The same was true in the negative valence condition. Specifically, automatic evaluations of known negative targets did not differ from automatic evaluations of morphed faces that merely resembled these targets, $t(96) = 0.22$, $p = .83$, although both differed from automatic evaluations of unknown faces that did not resemble the known targets, $t(96) = 1.92$, $p = .06$ and $t(96) = 2.22$, $p = .03$, respectively. Automatic evaluations did not differ as a function of similarity in the neutral control condition (all $ts < 1.58$, all $ps > .11$).

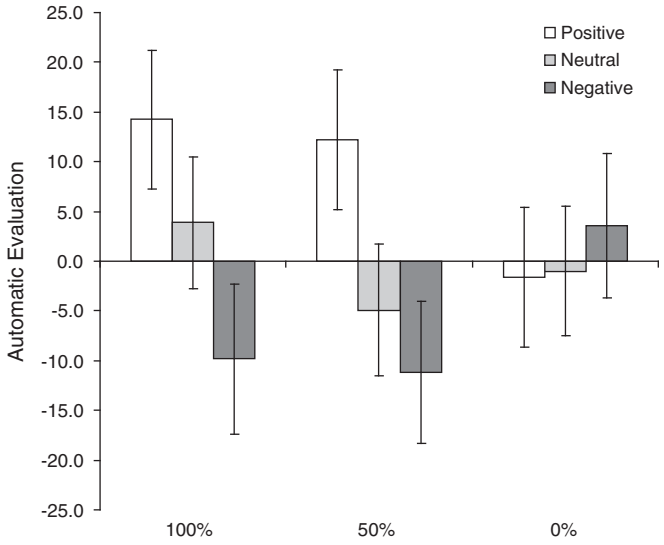

Fig. 1. Automatic evaluations of faces as a function of valence of target face (positive vs. neutral vs. negative) and facial resemblance to the target face as manipulated via morphing (100% vs. 50% vs. 0%). Higher values indicate more positive evaluations. Error bars depict standard errors.

Discussion

The current study was conducted to address three questions. First, we were interested in whether automatic evaluations of unknown individuals are influenced by their facial resemblance to known individuals. Second, we investigated whether such affective generalization reflects the objective degree of similarity between known and unknown faces or an assimilation of unknown faces to existing representations of known faces. Third, we aimed to disentangle the influence of similarity-based activation of evaluative knowledge and fluency-related affective positivity by investigating facial-resemblance effects for both positive and negative targets. Our findings indicate that facial-resemblance effects occurred rapidly without perceivers' intention to evaluate the relevant target person, and these effects were characterized by assimilative processing rather than objective similarity. Moreover, facial-resemblance effects emerged for both positive and negative targets, suggesting that they are driven by the activation of evaluative knowledge rather than fluency-related positive affect (cf. Winkielman & Cacioppo, 2001).

The current findings go beyond previous research on facial-resemblance effects in several ways. Although some studies have used relatively short exposure times (e.g., Günaydin et al., 2012), previous research has exclusively relied on self-report measures to investigate facial-resemblance effects. As we noted earlier in this article, evaluations assessed by these measures are "controlled" in the sense that they involve the intention to evaluate the target and unlimited time to make the judgment (see De Houwer et al., 2009). Thus, the current findings go beyond previous research by showing that facial-resemblance effects occur rapidly without perceivers' intention to evaluate the relevant target person (e.g., spontaneous responses to a random passerby on a crowded street). The present study also goes beyond previous research on transference (for reviews, see Andersen & Chen, 2002; Chen & Andersen, 1999) by showing that facial resemblance can influence automatic evaluations of unknown faces even when the known face it resembles is non-significant and of minimal acquaintance (see also Verosky & Todorov, 2010). In addition, our findings demonstrate that affective generalization occurs not only for positive, but also for negative targets.

The latter finding not only demonstrates the generality of facial-resemblance effects; it also has interesting implications for research on processing fluency. A common finding in the fluency literature is that the experienced ease of processing a stimulus can elicit a positive affective response (e.g., Winkielman & Cacioppo, 2001), which may be misattributed to the stimulus itself (e.g., Reber, Winkielman, & Schwarz, 1998). Yet, an important question is what happens when the fluency of processing a given stimulus is enhanced by its resemblance to a known stimulus of negative valence (e.g., when encountering a face

[3] The data treatment followed procedures by Gawronski and Deutsch in earlier studies using evaluative priming tasks (e.g., Deutsch & Gawronski, 2009; Gawronski, Deutsch, Mbirkou, Seibt, & Strack, 2008).

resembling the one of an old foe from college; see Winkielman et al., 2012). In such cases, the positive effect of processing fluency would be in contrast to the negative effect of the activated evaluative knowledge. Whereas processing fluency should lead to a favorable response, affective generalization should produce an unfavorable response. Although the current findings speak only to the processing of faces, they suggest that fluency effects on affective responses may be eliminated when fluency results from perceptual similarity to a negative stimulus.

Another interesting finding is that automatic evaluations of the 50% morphs were indistinguishable from automatic evaluations of the known faces they resembled. This finding is consistent with the hypothesis that, if a critical threshold of perceptual similarity is passed, unknown faces are assimilated to existing representations of known faces, thereby eliciting automatic evaluations of the same extremity. Such assimilation effects are in line with the concept of *pattern completion* in parallel distributed processing models (see Smith, 1996). According to these models, evaluative responses to a given stimulus are the result of momentary reconstructions of earlier patterns of activated associations involving positive or negative valence (Conrey & Smith, 2007; Ferguson & Bargh, 2007). Importantly, the reactivation of previously activated patterns may occur even if the current set of input stimuli is not completely identical to the one that has been linked to a given evaluative response. Instead, processes of pattern completion allow configurations of input stimuli that are sufficiently similar to the original set to reactivate the same pattern that was elicited by the earlier event. This conceptualization takes into account that the perceptual input provided by a given object is never identical across time and contexts. Nevertheless, evaluative responses to a given object often show a remarkable degree of consistency (see Gawronski, Rydell, Vervliet, & De Houwer, 2010; Rydell & Gawronski, 2009). Drawing on these considerations, unknown faces may elicit evaluations that are identical to those elicited by the faces they resemble. Importantly, these processes can occur automatically, such that similarity-driven evaluations are activated rapidly and in the absence of the intention to evaluate the target object.

At first glance, our results may seem inconsistent with earlier findings by Verosky and Todorov (2010). In their study, evaluations of unknown faces tended to be less extreme compared with the known faces they resembled. Moreover, affective generalization increased as a function of similarity, suggesting that facial-resemblance effects are driven by the objective degree of similarity between known and unknown faces rather than assimilative processing. Although there are many differences between the two studies, it is important to note that the morphed faces in our study had a higher similarity to the known faces (i.e., 50%) than in Verosky and Todorov's research (i.e., 20% and 35%). Thus, it is possible that facial-resemblance effects at low levels of similarity are driven by the processing of objective similarity until a critical threshold is passed for the assimilation to existing representations (cf. Beale & Keil, 1995; Zebrowitz & Collins, 1997). Another interesting possibility is that automatic evaluations show assimilation effects even at lower levels of similarity, and that self-reported evaluative judgments are based on automatic responses to the extent that they are regarded as a valid basis for an evaluative judgment (Gawronski & Bodenhausen, 2006, 2011; see also Ranganath & Nosek, 2008). To the extent that higher resemblance to a familiar face increases processing fluency and processing fluency can serve as a cue for the validity of momentarily activated information (Reber & Schwarz, 1999), the reliance on automatic evaluations may continuously increase as a function of facial resemblance (see also Winkielman et al., 2012). Thus, continuous resemblance effects on controlled evaluations may conceal assimilation effects on automatic evaluations, whose impact on self-reported judgments may continuously increase as a function of processing fluency. Put differently, continuous resemblance effects on controlled evaluations may not reflect the processing of objective similarity. Instead, they may reflect the continuously increasing reliance on automatic evaluations, with processing fluency serving as an incidental validity signal. Although this explanation is admittedly post-hoc, an interesting prediction implied by this account is that the relation between automatic and controlled evaluations of unknown faces should increase as a function of increasing similarity to the known faces they resemble.

Another important question for future research is whether facial-resemblance effects on automatic evaluations depend on conscious awareness of the resemblance. Previous research using self-report measures suggests that conscious awareness may not be necessary for resemblance effects on controlled evaluations (e.g., Günaydin et al., 2012). Hence, it seems reasonable to assume that the same is true for resemblance effects on automatic evaluations. However, because the current study did not measure participants' awareness of the resemblance, any such claims remain speculative at this point. Future research may help to clarify whether facial-resemblance effects on automatic evaluations depend on conscious awareness of the resemblance.

In sum, our findings indicate that automatic evaluations of unknown faces are influenced by their perceptual resemblance to known faces. In the current research, affective generalization occurred rapidly without perceivers' intention to evaluate the relevant target face. Moreover, facial-resemblance effects were characterized by an assimilation of unknown faces to existing representations of known faces, in that unknown faces elicited the same automatic evaluations as the known faces they resembled. These effects occurred for affective generalizations from both positive and negative targets. Thus, although unknown individuals can sometimes benefit from their resemblance to known individuals when the latter have a positive valence, they can also be susceptible to "guilty-by-mere-association" effects when they resemble a negatively evaluated person.

Appendix A. Evaluative statements used in impression formation task

Positive Statements
…sticks by co-workers, even when they make mistakes.
…is always there for co-workers when they need help.
…explains difficult tasks very well and is very patient.
…helps new co-workers adjust to their new job.
…is always open-minded and friendly to new co-workers.
…is always happy when his co-workers are successful.
…always listens carefully to what others have to say.
…organized a fund for orphans.
…always defends unjustly criticized co-workers.
…always tries to solve disagreements fairly.
Negative Statements
…always gets angry if he cannot assert his opinion.
…treats his co-workers very dismissively.
…once hit a co-worker in anger.
…is always very aggressive.
…makes fun of co-workers when they made a mistake.
…often insults co-workers.
…often plays his music loudly despite complaints from others.
…sometimes tells lies about co-workers.
…makes no effort to deliver important messages to co-workers.
…always refuses to take responsibility for his errors.

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