

INTERACTIVE EFFECTS

DO WE LOOK LIKE ME OR LIKE US? VISUAL PROJECTION AS SELF- OR INGROUP-PROJECTION

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People see their own group as more typical of a larger, superordinate category than they see other, included subgroups (ingroup-projection). This basic effect is not restricted to verbally encoded characteristics but also expands to the domain of what people think superordinate group members typically look like. Despite the robustness of the ingroup-projection phenomenon, it could be argued that it is a side effect of an even more basic process of seeing groups and individuals as similar primarily to the self (self-projection). In the present research, the authors sought to address and rule out this potential alternative explanation of visual ingroup-projection as an artifact of self-projection to the subgroup and the superordinate group. Thirty-one participants completed three two-image, forced-choice reverse correlation image classification tasks to create subjective, prototypical images, called classification images, of (a) themselves; (b) their national ingroup (German); and (c) the larger, superordinate group (European). With the use of partial pixel correlations, the objective, unique physical similarity between pairs of classification images was calculated. Both the self-image and the ingroup image independently predicted the superordinate group image, indicating that both self-projection and ingroup-projection contribute to visual mental representations of superordinate group faces.

When making sense of highly abstract groups that we belong to (superordinate identity; e.g., inhabitants of a continent, students), we often rely on smaller, more concrete social groups (subordinate identity; e.g., nations, students of a specific

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major). For instance, psychology students see *typical students* as more similar to psychology students than to business students (Wenzel, Mummendey, Weber, & Waldzus, 2003). This process is not restricted to “seeing” and “viewing” in the metaphorical sense. It expands to the way we actually “see” and visually represent others: Germans see typical Europeans as more German looking than Portuguese looking (Imhoff, Dotsch, Bianchi, Banse, & Wigboldus, 2011). Although visual projection has been suggested to be a form of ingroup-projection, the alternative explanation that both the superordinate group and the included subgroup are construed as similar to the self (i.e., social projection or self-projection; Wenzel et al., 2003)¹ has, as yet, not been ruled out. The present research sought to fill this gap.

According to the ingroup-projection model, individuals are motivated to judge members typical of their own subcategory as the most typical exemplars of the superordinate category (Wenzel, Mummendey, & Waldzus, 2007). Seeing one’s own subgroup (e.g., the group of Texans) as particularly typical for a positively valued, superordinate category (e.g., United States Americans) implies that the positive valence of the superordinate category extends to the subordinate group (and, by further extension, to the self as a member of the subordinate group). The same effect can occur on a merely informational basis without any motivational bias (Machunsky & Meiser, 2009): When trying to make sense of highly abstract, superordinate categories, individuals may refer to subjectively prototypical exemplars of this category. Because features associated with their own subgroup identity are likely to be more salient (due to greater frequency of exposure), their image of the superordinate category may be biased toward their subgroup identity without any motivational aim or benefit. Nevertheless, both mechanisms may lead to the same outcome. Ingroup-projection can be observed by means of greater reported similarity between the ingroup and a superordinate category than between an outgroup and the same superordinate category (see Wenzel et al., 2007), or by means of indirect measures such as lexical decision tasks (Bianchi, Mummendey, Steffens, & Yzerbyt, 2010).

Imhoff et al. (2011) demonstrated that ingroup-projection can occur visually and spontaneously in a task that did not require any trait ratings or verbal prompting of the group names. German and Portuguese participants completed a so-called Two Images Forced Choice (2IFC) Reverse Correlation Image Classification task (RCIC; Dotsch, Wigboldus, Langner, & van Knippenberg, 2008; Mangini & Biederman, 2004). Across multiple trials, participants selected the more European-looking face of two simultaneously presented faces. Each face was generated by applying random noise patterns to a base image that was kept constant throughout the task. The noise distorts the base face and therefore each stimulus face appeared different to participants. Averaging all noise patterns of stimuli that a participant selected as most European looking constituted the classification image (CI) and visualized, when superimposed on the original base image, what a participant thought a typical European face looked like. Independent ratings showed that the European classification images of each national sample resembled a typical member of the respective nation to a greater extent. Thus, Germans’ (Portuguese’s) internal representation of a typical European looked rather German (Portuguese) to independent raters, indicating ingroup-projection.

1. For the remainder of this article we will use the more specific term *self-projection*.

RCIC is becoming an increasingly popular method to visualize internal representations on a completely data-driven basis (e.g., Dotsch et al., 2008; Dotsch & Todorov, 2012; Dotsch, Wigboldus & van Knippenberg, 2013; Imhoff et al., 2011; Imhoff, Woelki, Hanke, & Dotsch, 2013; Jack, Caldara, & Schyns, 2012). Because in an RCIC task the presented stimuli are completely random, the outcome of an RCIC task is mostly dependent on representations in the participants' mind without making any a priori assumptions about the contents of those representations (Gosselin & Schyns, 2003; Todorov, Dotsch, Wigboldus, & Said, 2011). That makes RCIC tasks an ideal method of tapping into spontaneous information use in psychological processes, unprompted and unbiased by presented stimuli. With regard to ingroup-projection, it could be claimed that participants have no prior conviction of greater typicality of their ingroup for the superordinate group but that asking them directly will produce such a response. Likewise, priming them with words pretested as particularly typical for their ingroup (Bianchi et al., 2010) might prompt such responses. In RCIC tasks, participants are entirely free to create an image they find representative of the given (superordinate) category without any mention of any subgroup, the self, or attributed typicality for either ingroup or outgroup. Such tasks are thus ideally suited to provide a conservative test of spontaneous projection processes.

Although the findings of Imhoff et al. (2011) using RCIC provide evidence that ingroup-projection takes place visually and spontaneously, the alternative mechanism, self-projection, has, as yet, not been ruled out. Do individuals indeed use their mental image of their subordinate ingroup to make sense of highly abstract superordinate categories, or could these effects be explained more parsimoniously with self-projection? Self-projection refers to the basic phenomenon that people align their view of others to their self-view. People expect others to hold similar attitudes as well as to be similar to them regarding central personality traits. In a sense, self- and ingroup-projection resemble each other in many regards and only seem to differ in what the reference point of projection is: the self or the ingroup. In fact, it could be disputed whether ingroup-projection is a distinct process in and of itself or whether the basic process of self-projection can fully account for this phenomenon.

Specifically, the overlap between attributes ascribed to a subordinate ingroup and an inclusive superordinate group might be a result of the projection of self-relevant attributes to both groups. As an example, a male German person might think of himself as particularly studious (but not laid back). Because he projects this attribute to the groups he is a member of, he also expects Germans in general to be more studious than laid back. He might engage in identical reasoning regarding the category of Europeans: He is European, so he expects Europeans to be studious. Importantly, he will not see Italians as studious because self-projection hardly happens to outgroups (Robbins & Krueger, 2005). His image of Europeans is now biased toward his conception of Germans (as opposed to, e.g., Italian), which might appear to be ingroup-projection when in fact it might be the result of self-projection: German attributes overlap with European attributes, but only because self-attributes were projected to both Germans and Europeans and not because German attributes were projected to Europeans.

The same reasoning could be applied to visual ingroup-projection as demonstrated by Imhoff et al. (2011). Under this reasoning, participants based the typical European appearance on their own, rather than typical German, appearance. That

is, German participants produced a German-looking European face, not because they think that Europeans look like Germans, but because they think that Europeans look like themselves, and they happen to look German.

Which of the two mechanisms (ingroup-projection or self-projection) take place on a semantic or verbal level was empirically addressed by Bianchi, Machunsky, Steffens, and Mummendey (2009). Specifically, they tested in two studies with German students whether self-projection (i.e., the correlation between typicality ratings of self-attributes and typicality ratings of European attributes) could account for the observed ingroup-projection (i.e., the correlation between typicality ratings of national ingroup and European attributes). Self-projection could not fully explain ingroup-projection, because typicality ratings of European attributes and German attributes correlated significantly, even when statistically controlling for typicality ratings of self-attributes. However, the German participants in this study rated the typicality of several traits that were pretested to be typical of Germans (e.g., efficient), of an outgroup (Italians; e.g., hot-blooded), or of neither (e.g., clever). Results showed that ingroup-projection (i.e., high intra-individual correlations between rated typicality for the self and the ingroup) appeared primarily for ingroup-typical traits. Importantly, the use of pretested stereotypical traits could have affected the results profoundly. It is unclear to what extent these results were driven by the fact that these stereotypical attributes prompted or hindered projection processes. In the present research, we therefore aimed to advance the knowledge about ingroup-projection versus self-projection processes by looking at unprompted, spontaneous projection at the visual level.

PRESENT RESEARCH

In the present research, we sought to empirically test and rule out the possibility that previous findings of visual ingroup-projection are mere artifacts of visual self-projection. We designed a study to test whether visual projection to a superordinate group can be best conceptualized as ingroup-projection or self-projection. As an advancement of previous research on this issue (Bianchi et al., 2009), our method does not require any prompting of verbally encoded stereotypes about the ingroup. Instead, we look at the objective similarity of individuals' visual representations of themselves, their national ingroup, and the superordinate group of the continent where they live. To do so, we manipulated the instruction accompanying the RCIC task within participants, such that participants created three different classification images: self, German, and European. Except for the instructions, the task was always completely identical: The same stimuli were used in each within-participants condition. The resulting classification images were then analyzed for physical similarity by means of pixel correlation. To provide a fair test for the self-projection account, we always used a female base image and exclusively recruited female participants. This prevented the situation in which participants would not project because the stimuli did not appear to be the same gender as that of the participants.

If visual projection is a process of ingroup-projection, one would expect to find a correlation between the German and the European images. In contrast, if visual projection equals self-projection, one would expect to find a correlation between the self-image and the European image. Note, however, that we do not argue that

both processes are necessarily mutually exclusive, and it is conceivable that the European image objectively resembles both the self-image and the German image. Maybe, on some of the European RCIC trials, participants responded on the basis of their ingroup image, while on other trials they responded on the basis of their self-image. Critically, we predicted that ingroup-projection (correlation of German and European images) is not reducible to self-projection to both inclusive categories. Thus, the European image should be similar to the German image above and beyond the similarity to the self-image (as indicated by significant partial pixel correlation between the European and the German images with the self-image as control). The present research thus allowed us to (a) replicate the effect of visual projection and (b) test whether it can be best understood as self-projection, ingroup-projection, or both.

METHOD

PARTICIPANTS AND PROCEDURE

We recruited 31 German female participants (age: 18–41, $M = 22.61$, $SD = 5.49$) for two test sessions. All were students of different majors and all had German citizenship. The central dependent variable of the typical image of Europeans was collected in a first session including only the European RCIC task (“Which of the two faces looks more European?”). This was done to collect data for the category to which projection is presumed before making the hypotheses salient with the other two tasks. Between 1 and 28 days later ($M = 8.00$, $SD = 8.93$), participants completed two RCIC tasks in a second session: German (“Which of the two faces looks more German?”) and self (“Which of the two faces looks more like you?”). The order of the tasks in the second session was counterbalanced across participants. At the end, participants were debriefed and thanked.

REVERSE CORRELATION IMAGE CLASSIFICATION TASKS

Participants completed three forced-choice RCIC tasks. In each of these, participants chose the more European-, German-, or self-resembling face from two stimulus faces presented side by side across 770 trials. All stimuli consisted of the same black-and-white base face with random noise superimposed (see Dotsch et al., 2008, for details). Within a single trial, one stimulus consisted of the base face with a random noise pattern added, and the other consisted of the base face with the negative of the same pattern added. As in Imhoff et al. (2011), the base face was a 50% morph of already aggregated faces of individuals photographed in the cities of Cologne and Lisbon (Mike, 2003). In contrast to Imhoff et al. (2011), we used the aggregates of female individuals only. By averaging all noise patterns² a participant chose and superimposing that average on the original base face, we obtained a personal classification image for each participant and task.

2. More specifically, the mathematical parameters exactly describing each noise pattern were averaged and a new noise pattern was calculated based on these average values. The newly calculated noise pattern was then normalized and superimposed on the base image.

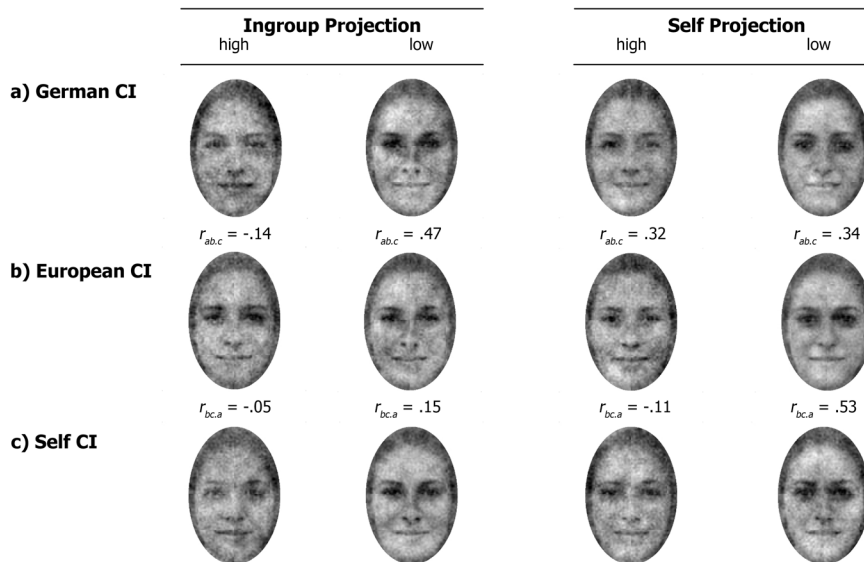


FIGURE 1. Exemplary classification images for German, European, and self for participants showing low versus high projection. Each column includes the resulting images of one exemplary participant. The four participants were chosen based on the fact that they represented the weakest and strongest, respectively, examples for the two projection processes (in terms of pixel correlation). Partial correlation coefficients reflect correlation in pixel luminance between images above and below the correlation coefficient, controlling for the third image. Thus $r_{ab,c}$ reflects the individual pixel correlation between the German CI and the European CI, statistically controlling for the self CI (interpretable as a pure measure of ingroup-projection above and beyond self-projection), whereas $r_{bc,a}$ reflects the individual pixel correlation between the European CI and the self CI, statistically controlling for the German CI (interpretable as a pure measure of self-projection above and beyond ingroup-projection).

RESULTS

For each participant, we computed measures of physical similarity between their European and German classification images (CIs) as an indicator of ingroup-projection and between their European and self CIs as an indicator of self-projection. To do so, we calculated for each participant the correlation between the pixel luminance values of two averaged classification patterns (based on CIs masked with an oval shape to include only the 123,672 pixels over the face instead of the 262,144 that constitute the whole picture; see Figure 1; for more details, see Dotsch & Todorov, 2012). A positive correlation indicates physically similar CIs, a negative correlation indicates physically opposite CIs, and a correlation close to zero indicates that the CIs have little in common.

The average correlations³ were significantly greater than zero for the indicator of ingroup-projection (correlation between European and German CIs), $igp = .23$, $t(30) = 5.70$, $p < .001$ (ranging from $r = -.13$ to $r = .63$), as well as self-projection (correlation between European and self CIs), $sp = .17$, $t(30) = 4.31$, $p < .001$ (rang-

3. Correlations were r-to-z-transformed, averaged, and their distribution was tested for differences from zero and from each other. The aggregated values were again z-to-r-transformed to present them in a conventional metric.

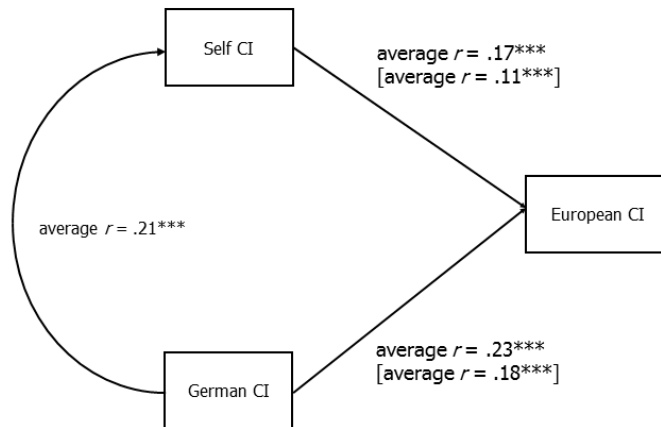


FIGURE 2. Pixel correlations between European, German, and self CI. Partial correlations as indicators of pure self-projection (upper half) and pure ingroup-projection (lower half) are presented in parentheses. *** $p < .001$

ing from $r = -.10$ to $r = .70$), and the effect of ingroup-projection was stronger than self-projection, $t(30) = 2.23$, $p = .03$ (Figure 2). Potentially speaking to both types of projection processes, the self-image was also similar to the German CI, $r = .21$, $t(30) = 4.37$, $p < .001$ (ranging from $r = -.14$ to $r = .66$). We computed partial correlations to test whether the correlation between European and self-CIs was driven by the shared variance with the German CIs or whether both types of projections were incremental to each other. To this end, the correlation between the European and German CIs (excluding base face and masked with an oval shape) was calculated while statistically controlling for the self CIs, and the same was done for the correlation between the European and the self while controlling for the German CIs. These partial correlations are relatively pure measures of ingroup- versus self-projection and revealed that both projection processes play independent roles: Although the indicator of pure ingroup-projection, $igp.sp = .18$, was still larger than the indicator of pure self-projection, $sp.igp = .11$, $t(30) = 2.18$, $p = .03$, both were significantly different from zero, $t(30) = 6.03$, $p < .001$, and $t(30) = 4.15$, $p < .001$, respectively (Figure 2).

The order of German and self RCIC tasks was counterbalanced. It was thus conceivable that the second CI may reflect less projection due to participant fatigue after already completing 770 trials on the first RCIC task. To control for this, we tested whether the partial correlations indicative of self-projection were greater than those indicating ingroup-projection if the self task was completed first. This was not the case. Even when the self task came first, there was more pure ingroup-projection, $igp.sp = .24$, than pure self-projection, $sp.igp = .10$, $t(14) = 2.77$, $p = .02$. However, in a 2 (self-projection, ingroup-projection) \times 2 (counterbalancing order) mixed-model ANOVA, the main effect of the ingroup-versus self-projection factor, $F(1, 29) = 5.59$, $p = .03$, was further qualified by an interaction with the order factor, $F(1, 29) = 4.26$, $p = .05$ (Figure 3). Unexpectedly, when the ingroup task came first, there no longer was stronger ingroup-projection, $igp.sp = .13$, than self-projection,

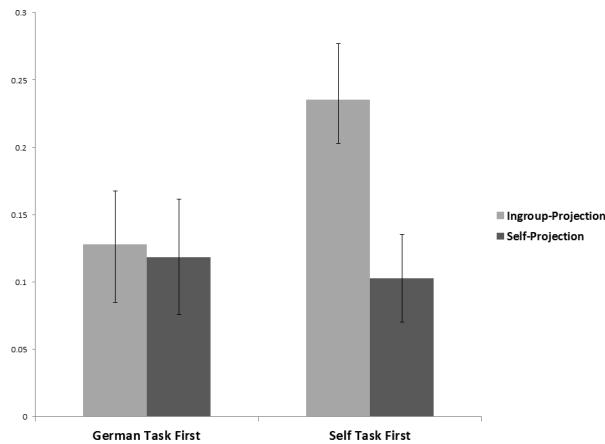


FIGURE 3. Measures of pure ingroup-projection and pure self-projection separately for both task orders (\pm SE). Projection measures are partial pixel correlations of European CI with German CI (ingroup-projection) and self CI (self-projection), controlling for the respective other CI. Intraindividual correlations were Fisher r -to- z -transformed to calculate the average and standard error. These averaged values and standard measurement error were inverse-transformed to present them in a conventional metric.

$sp.igp = .12$, $t < 1$, $p = .81$. Note, however, that on average both partial correlations are still significantly different from 0 [$t(15) = 3.21$, $p < .01$; $t(15) = 2.77$, $p = .01$].

DISCUSSION

Participants construed the visual representation of their superordinate category (European) similar to their ingroup category (German). Importantly, this effect was significant above and beyond the similarity between the visual representation of the superordinate category and the self. Thus, our results demonstrate that visual ingroup-projection cannot entirely be explained by self-projection. However, visual self-projection was also observable above and beyond visual ingroup-projection, as there was a substantial similarity between the European image and the self-image even after statistically controlling for the ingroup image. These results suggest that individuals independently project their self-image and the image of their ingroup into visual representations of superordinate categories. Self- and ingroup-projection may function additively in making sense of superordinate categories.

As an alternative possibility, it is also conceivable that the empirical support for self- and ingroup-projection does not stem from two parallel processes within each individual, but that some individuals engage in self-projection whereas others engage in ingroup-projection (although the positive correlation of $r = .37$, $p = .04$, between the two pure measures of projection does not support this idea). Moreover, even if both projection processes take place within each individual, it could still be the case that only one such process plays a role in any given trial, depending on whether the mental representation for ingroup or for self better fits the visual input in the respective trial.

Furthermore, the relatively large range of individual projection indices may invite speculations about systematic individual differences. However, our sample was too small to systematically explore such differences. Future research may elucidate whether visual ingroup-projection is a function of identification with the ingroup or a lack of experience with the superordinate group's diversity. Likewise, the degree of self-projection may relate systematically to other individual differences variables such as self-esteem.

Our central claim was that visual ingroup-projection is not reducible to self-projection, and the results supported this proposition. Across the whole sample, ingroup-projection was significantly stronger than self-projection. Although control analyses revealed that this difference was only significant when the self-representation was assessed prior to the ingroup representation, our general hypothesis that ingroup-projection is not reducible to self-projection remains unaffected: Independent of order, both projection processes were additive and significant. Although the relatively small sample size warrants caution when interpreting this order effect, it certainly invites some speculation. One of the most straightforward avenues for such speculation is the taxing nature of the task and its large number of trials. Of all projection indices, ingroup-projection became strongest when it was assessed in the second task, which is compatible with a view that ingroup-projection (but not self-projection) becomes stronger with fatigue.

Importantly, the use of reverse correlation in the current work enabled us to tap into the visual projection processes without forcing participants to project anything. Germans and self were not mentioned in the first session, and the presented stimuli were completely random. Nothing in the task could have primed the use of facial cues associated with self or a subordinate inclusive category. Nonetheless, participants did in fact end up projecting spontaneously on a visual level. This essentially replicates the work by Imhoff et al. (2011) and also extends it, because in the current work projection was assessed using objective similarity measures (correlations between CIs) instead of subjective similarity measures (ratings of the CIs). Projection processes may play a role not only during the RCIC task, but also in independent participants' ratings of the resulting CIs. The objective similarity measures based on within-participants reverse correlation do not suffer the same disadvantage. As an additional advantage of the current approach, our data speak to spontaneous projection processes that cannot be attributed to the prompting influence of ingroup-stereotypical traits (Bianchi et al., 2009).

Future research might address different underpinnings of these effects. Individuals could rely on either their self-image or their ingroup image as a heuristic in the absence of a clear prescriptive norm of an ideal representation of the superordinate category. However, for both ingroup- and self-projection, motivational accounts have been put forward. Self-projection may serve as a means of social connection and increases when mortality salience is induced (Arndt, Greenberg, Solomon, Pyszczynski, & Schimel, 1999). Ingroup-projection is often assumed to serve as a means of group enhancement. Clarifying the issue of whether (at least ingroup-) projection stems from heuristic processes or group enhancement, Rosa and Waldzus (2012) have recently proposed that this may depend on whether the intergroup relations are secure or insecure. If intergroup relations are secure, projection results from the motivation to make sense of the superordinate category in a parsimonious way, whereas under insecure intergroup relations, projection is

driven by a defensive motivation. Whether the same is true for visual projection is open for future research.

In summary, the present research shows that individuals construe abstract superordinate categories as partly resembling their own appearance and at the same time partly resembling the typical appearance of an inclusive category. Importantly, neither of the two processes is redundant to the other.

REFERENCES

- Arndt, J., Greenberg, J., Solomon, S., Pyszczynski, T., & Schimel, J. (1999). Creativity and terror management: Evidence that creative activity increases guilt and social projection following mortality salience. *Journal of Personality and Social Psychology, 77*, 19–32. doi:10.1037/0022-3514.77.1.19
- Bianchi, M., Machunsky, M., Steffens, M. C., & Mummendey, A. (2009). Like me or like us: Is ingroup projection just social projection? *Experimental Psychology, 56*, 198–205. doi:10.1027/1618-3169.56.3.198
- Bianchi, M., Mummendey, A., Steffens, M., & Yzerbyt, V. (2010). What do you mean by European? Evidence of spontaneous ingroup projection. *Personality and Social Psychology Bulletin, 36*, 960–974. doi:10.1177/0146167210367488
- Dotsch, R., & Todorov, A. (2012). Reverse correlating social face perception. *Social Psychological and Personality Science, 3*, 562–571. doi:10.1177/1948550611430272
- Dotsch, R., Wigboldus, D. H. J., Langner, O., & van Knippenberg, A. (2008). Ethnic faces are biased in the prejudiced mind. *Psychological Science, 19*, 978–980. doi:10.1111/j.1467-9280.2008.02186.x
- Dotsch, R., Wigboldus, D. H. J., & van Knippenberg, A. (2013). Behavioral information biases the expected facial appearance of members of novel groups. *European Journal of Social Psychology, 43*, 116–125. doi:10.1002/ejsp.1928
- Gosselin, F., & Schyns, P. G. (2003). Superstitious perceptions reveal properties of internal representations. *Psychological Science, 14*, 505–509. doi:10.1111/1467-9280.03452
- Imhoff, R., Dotsch, R., Bianchi, M., Banse, R., & Wigboldus, D. (2011). Facing Europe: Visualizing spontaneous ingroup projection. *Psychological Science, 22*, 1583–1590. doi:10.1177/0956797611419675
- Imhoff, R., Woelki, J., Hanke, S., & Dotsch, R. (2013). Warmth and competence in your face! Visual encoding of stereotype content. *Frontiers in Psychology, 4*, 386. doi:10.3389/fpsyg.2013.00386
- Jack, R. E., Caldara, R., & Schyns, P. G. (2012). Internal representations reveal cultural diversity in expectations of facial expressions of emotion. *Journal of Experimental Psychology: General, 141*, 19–25. doi:10.1037/a0023463
- Machunsky, M., & Meiser, T. (2009). Ingroup projection as a means to define the superordinate category efficiently: Response time evidence. *Social Cognition, 27*, 57–75. doi:10.1521/soco.2009.27.1.57
- Mangini, M. C., & Biedermann, I. (2004). Making the ineffable explicit: Estimating the information employed for face classifications. *Cognitive Science, 28*, 209–226. doi:10.1207/s15516709cog2802_4
- Mike, M. (2003). *The face of tomorrow*. Retrieved March 9, 2009, from <http://www.faceoftomorrow.com>
- Robbins, J. M., & Krueger, J. (2005). Social projection to ingroups and outgroups: A review and meta-analysis. *Personality and Social Psychology Review, 9*, 32–47. doi:10.1207/s15327957pspr0901_3
- Rosa, M., & Waldzus, S. (2012). Efficiency and defense motivated ingroup projection: Sources of prototypicality in intergroup relations. *Journal of Experimental Social Psychology, 48*, 669–681. doi:10.1016/j.jesp.2011.12.004
- Todorov, A., Dotsch, R., Wigboldus, D. H. J., & Said, C. P. (2011). Data-driven methods for modeling social perception. *Social and Personality Psychology Compass, 5*, 775–791. doi:10.1111/j.1751-9004.2011.00389.x

- Wenzel, M., Mummendey, A., & Waldzus, S. (2007). Superordinate identities and intergroup conflict: The ingroup projection model. *European Review of Social Psychology, 18*, 331–372. doi:10.1080/10463280701728302
- Wenzel, M., Mummendey, A., Weber, U., & Waldzus, S. (2003). The ingroup as pars pro toto: Projection from the ingroup onto the inclusive category as a precursor to social discrimination. *Personality and Social Psychology Bulletin, 29*, 461–473. doi:10.1177/0146167202250913