Journal of Experimental Social Psychology 52 (2014) 15–23

Contents lists available at ScienceDirect

Journal of Experimental Social Psychology

journal homepage: www.elsevier.com/locate/jesp

# Group membership alters the threshold for mind perception: The role of social identity, collective identification, and intergroup threat

Leor M. Hackel [a], Christine E. Looser [b], Jay J. Van Bavel [a,*]

[a] Department of Psychology, New York University, New York, NY 10003, USA
[b] Harvard Business School, Harvard University, Boston, MA, 02163, USA

## HIGHLIGHTS

- We tested intergroup mind perception with morphs between human and inanimate faces.
- Participants had more lenient thresholds for perceiving minds in in-group faces.
- Individual differences in collective identification moderated this bias.
- Out-group threat was associated with lenient out-group mind perception.
- Mind perception depends on contextual information in addition to bottom-up cues.

## ARTICLE INFO

*Article history:*
Received 2 May 2013
Revised 1 November 2013
Available online 8 December 2013

*Keywords:*
Mind perception
Intergroup relations
Face perception
Social identity
Dehumanization

## ABSTRACT

Human faces are used as cues to the presence of social agents, and the ability to detect minds and mental states in others occupies a central role in social interaction. In the current research, we present evidence that the human propensity for mind perception is bound by social group membership. Specifically, we show how identification with different social groups influences the threshold for mind perception. In three experiments, participants assessed a continuum of face morphs that ranged from human to doll faces. These faces were described as in-group or out-group members. Participants had higher (i.e., more stringent) thresholds for perceiving minds behind out-group faces, both in minimal (Experiment 1) and real-world groups (Experiment 2). In other words, out-group members required more humanness than in-group members to be perceived as having minds. This intergroup bias in mind perception was moderated by collective identification, such that highly identified group members had the highest threshold for perceiving minds behind out-group relative to in-group faces. In contrast, Democrats and Republicans who perceived the other party as threatening had lower thresholds for perceiving minds behind out-group faces (Experiment 3). These experiments suggest that mind perception is a dynamic process in which relevant contextual information such as social identity and out-group threat change the interpretation of physical features that signal the presence of another mind. Implications for mind perception, dehumanization, and intergroup relations are discussed. (229 words)



## Introduction

Successful human interaction requires that we recognize that those around us have thoughts, goals, and feelings. When we empathize with someone, we must first detect a mind that can feel pain, and when we negotiate with someone, we must first detect a mind that can engage in conscious planning. This basic process of extracting information from the environment to infer the potentiality for mental states–termed mind perception–plays a foundational role in social cognition. For example, inferring a mind in others allows us to see them as worthy of moral consideration (Gray, Gray, & Wegner, 2007; Gray, Young, & Waytz, 2012), and the failure to perceive a mind in others may facilitate prejudice and inhumane acts such as torture (Harris & Fiske, 2011). The current research examines how the threshold for perceiving minds is altered by the top-down influence of social identity and out-group threat.

Recent research has examined bottom-up perceptual inputs that lead to the detection of mind, showing that different physical features in a face alter judgments about the presence or absence of a mind. In particular, a recent paper examined mind perception by asking participants to determine if morphs between human and inanimate faces were alive and had a mind (Looser & Wheatley, 2010). Results indicated that people perceived mind and animacy once the face morphs passed a categorical threshold biased towards the human end of the morph spectrum. More recent research has investigated differences in the neural responses to animate and inanimate faces. This work has indicated

* Corresponding author at: New York University, Department of Psychology, 6 Washington Place, New York, NY 10003, USA.
*E-mail address:* jay.vanbavel@nyu.edu (J.J. Van Bavel).

0022-1031/$ – see front matter © 2013 Elsevier Inc. All rights reserved.
http://dx.doi.org/10.1016/j.jesp.2013.12.001

that regions of the brain's face perception network, such as the lateral fusiform gyri, differentially encode human compared to inanimate faces (Looser, Guntupalli, & Wheatley, 2012). Further, research using event-related potentials suggests that the brain can differentiate between human and inanimate faces within the first few hundred milliseconds of face processing (Wheatley, Weinberg, Looser, Moran, & Hajcak, 2011). Other research suggests that passively viewing human form may be sufficient to evoke activity in a wide range of brain regions implicated in social cognition (Wagner, Kelley, & Heatherton, 2011). Taken together, this research suggests that mind perception is a meaningful component of human face processing, encoded in the extended face network of the brain's visual system, and driven by bottom-up visual features.

It remains unexplored, however, whether this type of bottom up perceptual sensitivity to human minds can be modified by social motives. Here, it may be useful to distinguish *mind perception* from related processes of *mind attribution*, which involves higher-level judgments about the degree and kind of an entity's mental state capacities (e.g., the extent to which an entity is capable of feeling emotions or thinking; Gray et al., 2007), and *theory of mind*, which involves the attribution of mental content to a mind (e.g., attributing a specific belief or emotion to another person; Premack & Woodruff, 1978). Conceptualized in this manner, mind perception may serve as a precursor for both mind attribution and theory of mind, as well as related social cognitive processes (e.g., emotion perception). Several papers have recently suggested that mental state inferences may occur in response to the mere presentation of social scenes (Spunt & Lieberman, 2013; Wagner et al., 2011). As such, it is conceivable that mind perception, which is likely a building block of these higher-level social cognitive processes, proceeds on the basis of visual cues alone. However, there is reason to believe that social motives such as group membership may shape the interpretation of visual cues signaling the presence or absence of a mind.

Recent research suggests that many aspects of social perception can be influenced by top-down motivations. For example, motivationally relevant faces (e.g., members of one's own social groups) are often subject to greater processing in face sensitive brain regions, such as the fusiform face area (FFA) (Van Bavel, Packer, & Cunningham, 2008, 2011). Indeed, social motives have even been found to influence how bottom-up visual features such as race are encoded in the FFA (Kaul, Ratner, & Van Bavel, 2013). These studies suggest that top-down social motives can influence how bottom-up cues are used in social perception, raising the possibility that mind perception may similarly depend on motivational factors, even when bottom-up visual features are held constant.

Moreover, there is reason to believe that group membership presents a particularly relevant motivation for mind perception. Previous research has found that motivations such as the need for social connection influence mind attribution to inanimate objects and other humans (Epley, Waytz, & Cacioppo, 2007; Waytz, Gray, Epley, & Wegner, 2010). In particular, those who feel lonely are more likely to anthropomorphize pets or gadgets and believe in supernatural beings (Epley, Akalis, Waytz, & Cacioppo, 2008; Epley, Waytz, Akalis, & Cacioppo, 2008), while those who feel socially connected are more likely to attribute fewer mental capacities, e.g. the ability to engage in thought or experience pain, to socially distant others (Waytz & Epley, 2012). Group membership affords individuals the opportunity to fulfill belonging needs (Baumeister & Leary, 1995), as well as several other core motives, including self-enhancement (Tajfel & Turner, 1979), coherence (Abrams & Hogg, 1988), and distinctiveness (Brewer, 1991). To the extent that group membership increases the motivational relevance of in-group members as targets for social affiliation and interaction (Brewer, 1988), social identity may influence the readiness with which people perceive minds behind faces. Indeed, group membership can lead to biases in perception (Bernstein, Young, & Hugenberg, 2007; Van Bavel et al., 2011), evaluation (Otten & Wentura, 1999; Van Bavel & Cunningham, 2009), and behavior (Tajfel, Billig, Bundy, & Flament, 1971) that favor one's in-group, even in the absence of intergroup conflict or competition.

There is already real world evidence that social identity can impact the attribution of mind and humanity to others. Perpetrators of genocide have been known to dehumanize out-group members—such as the characterization of Jews in the Holocaust or Tutsis in Rwanda as vermin (Haslam, 2006). In less extreme cases, out-group members are "infrahumanized"—judged as less capable of experiencing complex, uniquely human emotions such as nostalgia and compassion (Demoulin et al., 2009; Leyens et al., 2001)—or denied humanity by being seen as animalistic or as automata (Haslam, 2006). Moreover, brain regions regularly involved in social cognition show less activation when people view extreme out-groups, such as the homeless (Harris & Fiske, 2006). People also show lesser empathic responses to out-group as compared to in-group members (Cikara, Bruneau, & Saxe, 2011; Gutsell & Inzlicht, 2012) and these intergroup biases in empathy are associated with differential helping behavior, including the willingness to endure physical pain for in-group but not out-group members (Hein, Silani, Preuschoff, Batson, & Singer, 2010). These studies raise the possibility that social identity may lead to similar patterns of intergroup bias in mind perception. Moreover, the extent to which individuals identify with a group may influence such biases in social perception (Ashmore, Deaux, & McLaughlin-Volpe, 2004; Van Bavel & Cunningham, 2012).

While much research leads to the prediction that people perceive minds less readily in out-group members, a motivational approach to mind perception further suggests that there may also be times when people are better served by considering an out-group member's mental states than by denying them a mind. For instance, when people feel threatened by an enemy, they may be motivated to consider the enemy's strategy and plans. Indeed, greater effectance motivation–the need for mastery or control over one's environment–has been linked to greater mind attribution, such as anthropomorphizing robots or gadgets by considering them to have minds of their own (Epley et al., 2007; Waytz et al., 2010). To the extent that out-groups are perceived as threatening, they may heighten effectance needs, which may increase mind perception. Therefore, while people may ordinarily have higher mind perception thresholds–that is, require more humanness in a face to perceive a mind–for out-group faces, intergroup threat may make out-group members highly relevant targets, prompting greater mind perception towards the out-group. Increased vigilance towards out-group minds may occur in the case of physical threats as well as threats to collective in-group goals, values, or power, because in all these cases it is crucial to infer the plans and intentions of out-group members. This may also help distinguish mind perception from evaluation, since mind perception may depend on the importance of finding a mind in friends or in foes regardless of whether they are liked or disliked.

### Overview

In three experiments, we examined whether social identity would exert a top-down influence on mind perception. We showed participants morphs that varied from human faces to non-human (inanimate) faces. These faces were described as in-group or out-group members. We examined whether thresholds for perceiving minds differed for in-group and out-group members. We predicted that identifying with a group would lead to more lenient mind perception thresholds for the in-group (Experiments 1 & 2)–especially among highly identified group members (Experiment 2)–but that out-group threat would be associated with more lenient mind perception thresholds for the out-group (Experiment 3).

As a secondary question, we explored whether the effects of social identity were specific to perceiving minds (i.e., whether an entity has the capacity for mental states) as opposed to animacy (i.e., whether an entity is alive; Experiments 1 & 2). Past work has found nearly identical