

# Social Mindfulness: Skill and Will to Navigate the Social World

Niels J. Van Doesum  
VU University Amsterdam

Dion A. W. Van Lange  
Vossius Gymnasium

Paul A. M. Van Lange  
VU University Amsterdam

Although one may not always see it, social life often involves choices that make people act in ways that are mindful of others or not. We adopt an interdependence theoretical approach to the novel concept of social mindfulness, which we conceptualize in terms of other-regarding choices involving both skill (to see it, e.g., theory of mind, perspective taking) and will (to do it, e.g., empathic concern, prosocial orientation) to act mindfully toward another person's control over outcomes. We operationalized social mindfulness in a new social decision-making paradigm that focuses on leaving or limiting choice options for others that we tested across 7 studies. Studies 1a through 1c showed that people with other-oriented mindsets left interdependent others more choice than people with self-oriented and/or unspecified mindsets. Studies 2a and 2b revealed that people developed more favorable judgments of a socially mindful than of a socially unmindful person. Study 3 revealed that unknown others with trustworthy (vs. untrustworthy) faces were met with more social mindfulness. Study 4 revealed that social mindfulness could be traced in personality by being positively related to Honesty-Humility and Agreeableness (HEXACO Personality Inventory-Revised) as well as to Empathy (Interpersonal Reactivity Index) and a prosocial value orientation (SVO). Together, these studies contribute to explaining how social mindfulness can help people to navigate the social world by aiming to maximize other people's control over their situational outcomes.

*Keywords:* social mindfulness, prosocial, social value orientation, empathy, perspective taking

Prosocial behavior comes in many flavors, and social mindfulness might well be one of them. Being *socially mindful* means to safeguard other people's control over their own behavioral options in situations of interdependence. Recently, the concept of mindfulness has become a household term in both clinical and social psychology. Mindfulness-based psychotherapy, for instance, has shown to be an effective therapy for depression and anxiety disorders (e.g., Chiesa & Serretti, 2011; Greeson, 2009; Hofmann, Sawyer, Witt, & Oh, 2010), and everyday mindfulness as described by Langer (1989, 1992) allows for more openness to all the options and alternatives that life has to offer—even providing a feeling of empowerment

(Langer, Blank, & Chanowitz, 1978). However, contemporary discussions of mindfulness often overlook the original other-orientedness that is embedded in its Buddhist heritage (Black, 2011; cf. Gergen, 2009). Other than the prevalent inward awareness and inner dialogue of modern mindfulness, *social* mindfulness doubles back to its roots by incorporating a benevolent focus on the needs and interests of others.

General mindfulness starts with paying attention to the little things available to individual awareness; social mindfulness starts at a similar basic level. In daily life, it may sometimes be understood as simply being considerate or being polite. An example would be to deliberately *not* take the last peanut butter cookie from a plate that also holds a couple of chocolate chip cookies. Undoubtedly, various personal motivations and/or preferences may play a role in these kinds of decisions, but a readily available reason for refraining from taking the last single cookie is to leave a next person something to choose from—even if that is only the polite thing to do. Key factors in this decision process are to acknowledge the immediate or expected inclusion of someone else in a given situation, assess the effect of one's actions on the remaining behavioral options for the other (i.e., interdependence is seen and established), and the level of positive regard given to this other (“Do I really care if uncle John can't choose which cookie he wants, as long as he can still have one?”). Subtle but, as we argue, socially effective actions like leaving or limiting choice options for others requires a process of both perspective taking and empathic concern—uncle John might indeed get really upset and not want to play soccer anymore.

---

This article was published Online First May 6, 2013.

Niels J. Van Doesum, Department of Social and Organizational Psychology, VU University Amsterdam, Amsterdam, the Netherlands; Dion A. W. Van Lange, Vossius Gymnasium, Amsterdam, the Netherlands; Paul A. M. Van Lange, Department of Social and Organizational Psychology, VU University Amsterdam.

The research was supported by the Netherlands Organization for Scientific Research Grant 022.003.040, awarded to Paul A. M. Van Lange as member of the Kurt Lewin Institute. Niels J. Van Doesum and Paul A. M. Van Lange contributed equally to this work.

Correspondence concerning this article should be addressed to Niels J. Van Doesum or Paul A. M. Van Lange, Department of Social and Organizational Psychology, VU University Amsterdam, van der Boechehorststraat 1, 1081 BT, Amsterdam, the Netherlands. E-mail: [n.j.van.doesum@vu.nl](mailto:n.j.van.doesum@vu.nl) or [p.a.m.van.lange@vu.nl](mailto:p.a.m.van.lange@vu.nl)

Perspective Taking and Empathic Concern are two of the four domains that Davis (1980, 1983) distinguished in the multidimensional concept of empathy—the other domains are Fantasy Scale and Personal Distress. Separately or in combination, these can be used to explain many other-oriented capacities and/or tendencies. Investigating social mindfulness as a human capacity in which the cognitive component of perspective taking and the affective component of empathic concern work together to signal prosocial intentions offers a practical and concise method to look at an underinvestigated way of how people may balance a need for social inclusion with a need for individual differentiation (Brewer, 1991, 2012). The mindful sequence of *to see it* (i.e., the perspective of the other person) and *to do it* (i.e., to make choices that leave room for that other) requires both skill and will.

### Socially Mindful

Social mindfulness is minding the needs and interests of others in a way that honors the idea that most people like to choose for themselves (i.e., have a certain need for autonomy; Deci & Ryan, 2012). In terms of interdependence theory (e.g., Kelley & Thibaut, 1978; Van Lange & Rusbult, 2012), social mindfulness seeks to maximize other people's control over their own outcomes. The socially mindful person makes sure that he or she does not determine or close up situations for others as far as outcomes are concerned. In interdependence theory, situations that require suspension of immediate personal preferences for the sake of others have been relatively underexposed, and in our eyes deserve some attention. As mentioned, being socially mindful can be as simple as not taking the last peanut butter cookie when there are still other alternatives left. Situations like these make a good anchor point for any new measure of social mindfulness. Leaving or limiting outcome options for others will therefore constitute the core of the current investigation.

### Skill and Will

Perspective taking is a well-researched phenomenon (e.g., Batson, Early, & Salvarani, 1997; Ruby & Decety, 2004). Neural correlates of this human capacity for instance can be traced back to regions in the medial prefrontal cortex (see Amodio & Frith, 2006). Related to perspective taking is the concept of theory of mind (ToM), which enables people to attribute mental states—for example, beliefs, intentions, desires, knowledge—to oneself and to others, and to understand that those others have beliefs, desires, and intentions that are different from one's own (e.g., Baron-Cohen, Tager-Flusberg, & Cohen, 1993; Wimmer & Perner, 1983). A basic ToM allows people to know that others have thoughts and feelings in the same way that they have, and thus recognizes the others as cognizant and sentient (Decety & Batson, 2007). An advanced ToM extends this ability to more complex situations in which other people's perspectives may require some effort to assess. Yet another approach to acknowledge the views and feelings of others, for example used in person-centered and experiential approaches to psychotherapy, is called *mentalizing*, or to become aware of the presence and quality of mental states in self and others (e.g., Allen, 2006; Allen, Fonagy, & Bateman, 2008). Building on this extensive body of research, we reason that the skill to process other people's perspective will vary between

people and between situations, thus laying down the affordance for *social* mindfulness.

Skill will set the perimeters, but the will to follow up is another issue. Early research has shown that especially *affective* perspective taking connects to a cooperative predisposition and altruistic behavior, rather than the ability to take the *physical* perspective of others (e.g., D. W. Johnson, 1975a, 1975b; Oswald, 1996; Vaish, Carpenter, & Tomasello, 2009). Affective perspective taking is part of the human faculty of empathy, mostly related to empathic concern. As the capacity to feel for and with others, one could expect empathic concern to play an important part in a benevolent approach to the needs and wishes of others, and therefore in social mindfulness. Motivating factors like these will bring the ability for perspective taking or mentalizing online. In other words: One needs the skill to assess for the will to address.

### Interdependence

Our conceptualization of social mindfulness is deeply rooted in interdependence theory, which emphasizes the role of social orientations such as cooperation and fairness in settings of outcome interdependence (Kelley & Thibaut, 1978). Social mindfulness as we define and operationalize it extends the focus on outcome interdependence by including the notion that people's behavioral choices and actions may codetermine the range of possible outcomes for others, rather than just the outcome itself (cf. Kelley et al., 2003; Van Lange & Rusbult, 2012). In order to investigate these specific instances of interdependence, we asked participants in our experiments to imagine being in a dyadic situation in which choices by the one would leave or limit outcome options for the other.

The operationalization of social mindfulness we discuss in this article was inspired by the pen-choice paradigm initially used by Kim and Markus (1999) and further developed by Yamagishi, Hashimoto, and Schug (2008; see also Hashimoto, Li, & Yamagishi, 2011). In this paradigm, people were asked to pick one among five pens that came in two colors. The ratio was always two to three pens of the same color, or one to four. This obviously made one color the majority and the other the minority. Both research groups framed their findings in terms of cultural differences, but Yamagishi et al. (2008; see also Hashimoto et al., 2011) argued that instead of being internalized cultural norms, which is the point of the Kim and Markus (1999) study, preferences for minority versus majority objects were driven by strategies that people follow as what may be called "cultural game players" (Hashimoto et al., 2011, p. 140; cf. Yamagishi et al., 2012). They reached this conclusion by noticing that when by themselves or the last to choose, and thus without any social pressure, most people seemed to prefer the unique option regardless of cultural background. Picking the unique object therefore can be seen as the default choice in absence of other, extrinsically motivating factors.

Clearly, choosing one object rather than the other can be the result of a strategic choice. In order to transpose the pen-choice paradigm from unique versus majority choices to a measure of social mindfulness, we limited the total number of choice options to three, with a standard ratio of one to two (e.g., one blue pen and two green pens). Also, we repeated similar choices by adding more objects than pens alone. Furthermore, the setting was always dyadic and the choices socially consequential: Choosing one ob-

ject would remove it for the other person. In this set up, choosing the object of which there were two would leave the second person something to choose between (a blue or a green pen), whereas a first choice for the unique object would limit the options because there would only be two identical objects left to choose from.

In interdependence terms, we reasoned that the first person's choice for the doubled object would count as cooperative/mindful, because it grants the second person control over the same amount and quality of options that were available to the first person. A first move for the unique object, however, removes this control. Granting this kind of control may have prosocial motives (cf. Magee & Langner, 2008) because it allows the other to have as much autonomous control over the outcome as the situation will allow. This reasoning also taps into self-determination theory (e.g., Deci & Ryan, 2000, 2012), in which autonomy is regarded as a basic need. Providing someone with a certain degree of autonomy, or at least not taking it away, may be perceived as an action that honors the needs and the perspective of the other; in other words, as an act of social mindfulness.

In the same realm, social value orientations (SVOs) are conceptually related to social mindfulness. In past research, three major types of SVO have received most attention, including (a) a prosocial orientation that seeks to enhance own *and* other's outcomes as well as equality in outcomes; (b) an individualistic orientation that seeks to enhance outcomes for self, and is largely indifferent to outcomes for another person; and (c) a competitive orientation that seeks to enhance the difference between outcomes for self and other in favor of the self (Messick & McClintock, 1968; Van Lange, Otten, De Bruin, & Joireman, 1997). Thus, relative to individualists and competitors, prosocials tend to be more other-regarding in that they are more strongly oriented toward helping others and pursuing equality in outcomes (Van Lange, 1999), expect others to be other-regarding as well (Kuhlman, Camac, & Cunha, 1986), and tend to view various interdependence situations in terms of fairness and morality (for a review, see Balliet, Parks, & Joireman, 2009; Van Lange, Schippers, & Balliet, 2011). Prosocial more than individualistic or competitive orientations therefore can be expected to favor mindful behaviors that safeguard variation in options—or "choice"—for others.

### Research Overview and Hypotheses

Social mindfulness seeks to maximize other people's control over their own outcomes in situations of interdependence; this makes it an effective tool for signaling and estimating prosocial intentions. To introduce and investigate this novel construct, we conducted seven studies, with the concomitant goal of testing our new paradigm (the Social Mindfulness [SoMi] paradigm; see the General Method section below). Social mindfulness makes people leave choice for others out of other-regard. Being specifically other-oriented therefore should lead to higher levels of social mindfulness than being self-oriented (orientation hypothesis). For a clear test of concurrent validity, we designed an experiment in which we explicitly told our participants to mind either their own or another person's best interest (Study 1a). Because the wish to gain more information about others might also influence whether to leave someone else a choice or not, we planned a replication with the additional instruction that participants would not be informed about the other person's choices (Study 1b). Next to

gaining information, choosing behavior may also arise from a self-serving wish to make a favorable impression on others. This possible alternative explanation we addressed in a second replication (Study 1c).

Our general argument holds that social mindfulness signals prosocial intentions. But for this signal to be functional, it must of course also be understood as such. We tested this in two studies. In a laboratory setting, Study 2a looked at how participants would react after witnessing various levels of social mindfulness. We expected to find that a socially mindful person would be liked better and trusted more than a socially unmindful person (i.e., someone who leaves the other with little or no choice; perceived mindfulness hypothesis). In Study 2b, we sought to replicate this in an online study using a different and U.S.-based population.

Because trust and trustworthiness make investing in social relationships a safer bet, one of our general expectations was that trust would play a role in social mindfulness; not only in the sense that socially mindful individuals will be trusted more than those who are not, but also to the extent that the mere appearance of being trustworthy will enhance the chance of being met with social mindfulness. In Study 3, we therefore explored whether seeing a stranger's trustworthy—as opposed to untrustworthy—face would be enough to elicit higher levels of social mindfulness (trustworthiness hypothesis).

In Study 4, we sought further validation by tracing social mindfulness in underlying personality structures. We expected social mindfulness to be specifically associated with personality factors that are geared toward enhancing or maintaining the relationship with others, like Honesty-Humility and Agreeableness (personality hypothesis). We also tested our expectation that Empathy would be associated with Social Mindfulness (empathy hypothesis), as well as a prosocial value orientation (SVO hypothesis).

### General Method: The SoMi Paradigm

Inspired in part by past research on the pen-choice paradigm originally devised by Kim and Markus (1999) and extended by Yamagishi et al. (2008) and Hashimoto et al. (2011), we developed a paradigm for social mindfulness that for short we called the SoMi paradigm. The SoMi paradigm consisted of a computer-generated social decision-making task that let participants choose one among three objects in a series of different categories, for example, pens, baseball caps, water bottles, or wrapped gifts. Per category, two of the objects were entirely identical, and the third only differed in a single aspect (e.g., one yellow baseball cap and two green ones). The specific instructions and number of categories varied somewhat per study, but participants always had to keep in mind that they were playing the decision task together with one other person in a dyadic interaction. They were told to imagine that they both would get to take home one of the three objects. Furthermore, it was emphasized that the objects would not be replaced; once chosen by the one, an object would no longer be available to the other. This combination of a consistently interdependent setting with the use of multiple objects formed the conceptual and theoretical next step that allowed the pen-choice paradigm to evolve into a measure of social mindfulness. Two example screenshots are provided in Figure 1.

The rationale behind this paradigm assumed that if the participant would choose the object of which there were two, the other

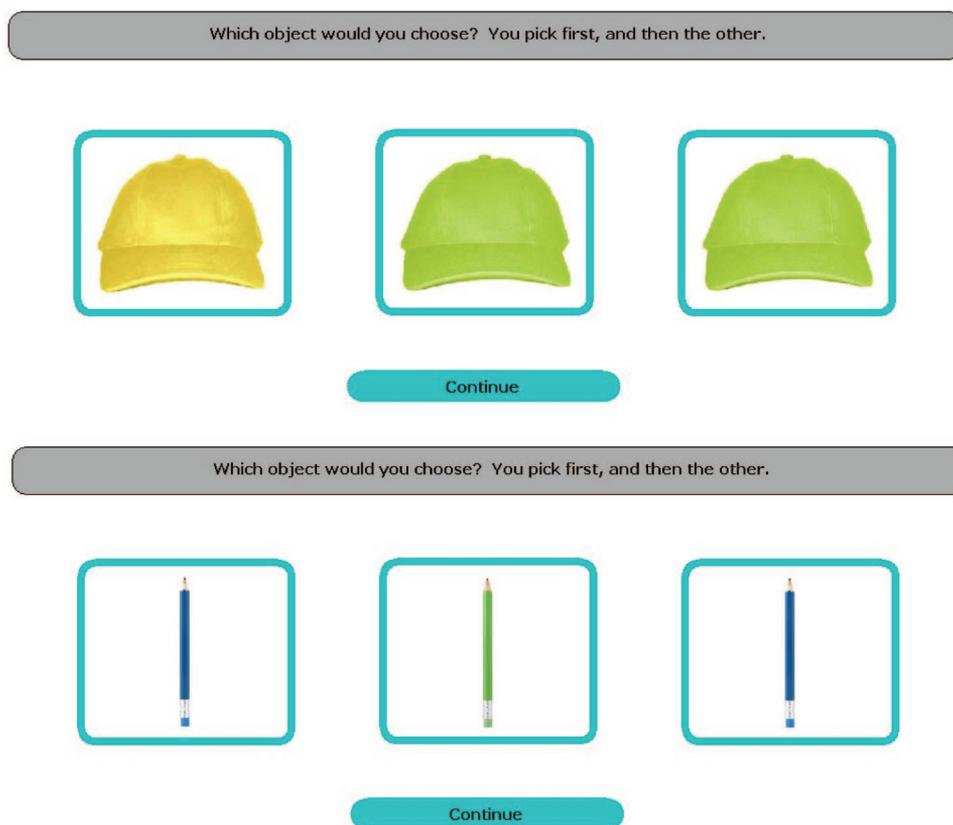


Figure 1. Screenshots from the Social Mindfulness (SoMi) paradigm.

person would still have something to choose between (a green or a yellow cap); this would be scored as mindful (1). If the participant, however, would pick the unique option, he or she would leave the other with no choice but to take or leave the other object (only two identical green caps would be left); this would be scored as unmindful (0). The various categories as well as the three objects per category were presented in random order. In all but Studies 2a and 2b, participants had to make another choice in a second round within the same category, but now in counterbalanced order (e.g., two yellow and one green baseball cap). A final score (i.e., a proportion of socially mindful choices) was computed by averaging the scores over all decisions in both rounds, resulting in a number between 0 (only unmindful choices) and 1 (only mindful choices).

### Minding Me, Minding You

We tested the orientation hypothesis in three consecutive studies by asking participants to look after either their own or another person's best interest, which in a first test of concurrent validity comes down to either being selfishly or socially mindful. The "other" in the decision task was to be imaginary and not specifically defined. This reflected the set up of the triple-dominance measure of SVO (e.g., Van Lange, 1999; Van Lange et al., 1997) that asks people to allocate points between themselves and an unknown other that they are not likely to meet in the future. A similar set up allowed us to assess social mindfulness in a situation

of generalized self- versus other-orientedness. In order to test whether leaving choice to others indeed comes from prosocial intentions, we hypothesized that the instruction to be other-oriented would result in higher levels of social mindfulness than the instruction to be self-oriented (orientation hypothesis) and that a predominantly prosocial value orientation would be associated with more social mindfulness than a proself orientation (SVO hypothesis; Study 1a). In Studies 1b and 1c, we tested whether our initial findings would replicate in different samples while exploring two possible alternative explanations.

### Study 1a

#### Method

**Participants.** In this laboratory study, 41 men and 67 women participated ( $N = 108$ ;  $M_{\text{age}} = 20.75$ ,  $SD = 2.25$ ). They were recruited at the campus of VU University Amsterdam, the Netherlands, by means of flyers distributed in two main cafeterias, and were compensated with €3.50 (about \$4.57 U.S.) or study credits for their voluntary participation.

**Procedure and materials.** Upon arrival, participants were greeted and guided into separate cubicles equipped with computers. The experimenter then would start the computer program and leave the cubicle. All further instructions were provided onscreen. The experiment opened with the SoMi paradigm, as described in

the General Method section above. In this case, it was played with five different object categories: jars of jam, baseball caps, pencils, wrapped gifts, and apples. Participants were told to imagine playing with someone else they did not know and were not likely to meet in the near future.

**Instructing mindset.** In randomly assigned conditions, participants were either asked (a) to keep the perspective of the other in mind, (b) to keep the other's best interest in mind, or (c) to think of their own preferences.<sup>1</sup> In a control condition, they did (d) not receive specific instruction as to where to put their focus. We included two instructions that were aimed to induce other-orientedness (using "perspective" and "best interest") to ensure that the findings would be similar and not dependent on a specific kind of wording. This was considered to be especially important for the validation of a new paradigm that extends the traditional focus on "outcomes."

Preliminary analyses revealed a significant main effect for condition on social mindfulness ( $M_{\text{overall}} = .60$ ;  $SD = .22$ ),  $F(3, 104) = 3.93$ ,  $p = .011$ ,  $\eta_p^2 = .10$ . However, pairwise comparisons revealed no significant difference between the conditions of keeping the other's perspective (1) versus best interest (2) in mind ( $M = .63$ ,  $SD = .24$ ; and  $M = .69$ ,  $SD = .18$ , respectively),  $F(1, 104) < 1$ ,  $p = .329$ , in combination with a significant difference between those two conditions combined (1 + 2) and the instruction to mind one's own best interest (3) ( $M = .55$ ,  $SD = .24$ ),  $F(1, 104) = 5.30$ ,  $p = .023$ . For the main analysis, we therefore decided to combine the two conceptually other-oriented conditions in a single condition for other-orientedness. This would then be contrasted with self-orientedness and no instruction (control) in a three-tiered variable called *instruction*.

Next, SVO was assessed by a computerized version of the nine-item triple-dominance measure of SVO (Van Lange, 1999; Van Lange et al., 1997). Eleven participants could not be classified for making fewer than six consistent choices and were excluded from all analyses involving SVO ( $n = 97$ ). In this sample, we found 53 people with a prosocial orientation (55%), 37 with an individualistic orientation (35%), and seven competitors (7%). Because of the small amount of competitively oriented participants, and to match up to the self-/other-orientation of the experimental conditions, we combined individualists and competitors into a single category of proself orientation (cf. De Cremer & Van Lange, 2001; Van Kleef & Van Lange, 2008); participants in this category ( $n = 44$ ) would then be pitted against those in the prosocial category ( $n = 53$ ).

## Results

To examine the role of instruction and SVO, we conducted a 3 (instruction; self-oriented, other-oriented, control)  $\times$  2 (SVO; prosocial, proself) analysis of variance (ANOVA) on the proportion of socially mindful choices. As predicted, this analysis revealed a main effect for instruction,  $F(2, 91) = 5.06$ ,  $p = .008$ ,  $\eta_p^2 = .10$ . In line with the hypothesis, pairwise comparisons<sup>2</sup> revealed that under instruction of other-orientedness ( $M_{\text{other-oriented}} = .66$ ,  $SD = .21$ ), participants scored higher on social mindfulness than under instruction of self-orientedness ( $M_{\text{self-oriented}} = .55$ ,  $SD = .24$ ),  $F(1, 105) = 5.30$ ,  $p = .023$ , or no instruction at all ( $M_{\text{control}} = .52$ ,  $SD = .17$ ),  $F(1, 105) = 8.89$ ,  $p = .004$ . Being other-oriented differed from both other conditions together as well,  $F(1, 105) = 10.47$ ,  $p =$

.002. There was no significant difference between self-orientedness and the control condition, however,  $F(1, 105) < 1$ ,  $p = .558$ . Thus, other-orientedness differed in social mindfulness from self-orientedness and/or no instruction (i.e., other-oriented participants scored higher), whereas no instruction and self-orientedness did not differ in their effect on social mindfulness.

The main model also revealed a significant effect of SVO,  $F(1, 91) = 5.05$ ,  $p = .027$ ,  $\eta_p^2 = .05$ . This supported our hypothesis that prosocials ( $M_{\text{prosocial}} = .64$ ,  $SD = .20$ ) would exhibit greater social mindfulness than proselfs ( $M_{\text{proself}} = .54$ ,  $SD = .23$ ; SVO hypothesis). The interaction between instruction and SVO was not significant,  $F(2, 91) < 1$ ,  $p = .458$ ,  $\eta_p^2 = .02$ .

## Study 1b

The first study provided good support for our hypotheses. Although the new methodology seems to assess a key aspect of social mindfulness in a relatively straightforward manner, we should acknowledge potential alternative interpretations. In particular, because we did not explicitly rule this out, participants in Study 1a could have thought or assumed that they would be informed about the other person's choices. Specifically, one motivation to choose for the doubled instead of the unique object could therefore have been to gain some information about the other's preferences, thus offering an alternative explanation for the results. To test whether the findings of the previous study would replicate when participants would be certain not to receive any information about the other person's choices, we conducted a new study with basically the same procedure as Study 1a, but now with an extra instruction emphasizing that "you won't know what the other picked." An additional goal was to seek replication within a culturally and age-wise different population.

## Method

**Participants and procedure.** Study 1b was conducted as an online survey for monetary compensation on Amazon's Mechanical Turk, with participation limited to the United States (for a discussion of the reliability of this medium for psychology research, see Buhrmester, Kwang, & Gosling, 2011; Mason & Suri, 2012). Of the 140 participants who completed the survey,<sup>3</sup> 22 failed a stringent combination of three manipulation checks (here, we report on the most conservative approach in which participants had to pass all three manipulation checks, in which they had to reconfirm what frame of mind we asked them to adopt, the fact that they were first to choose, and that they would not be informed about the other person's choices; however, the analyses reported below with all participants included did reveal virtually identical

<sup>1</sup> In Dutch, these instructions were (a) "Probeer je steeds zo veel mogelijk te verplaatsen in de ander," (b) "Probeer steeds zo veel mogelijk rekening te houden met de belangen van de ander," and (c) "Probeer steeds zo veel mogelijk te letten op je eigen voorkeur."

<sup>2</sup> For completeness and clarity, we report pairwise comparisons that include the unclassifiable participants in the SVO task who were excluded from analysis in the main model. Running the same comparisons without those participants did not structurally alter significance patterns and effect sizes.

<sup>3</sup> Six additional people opened but did not complete the study, and thus could not be included in the analyses.

patterns and results, that is, no change in the statistical [non]significance of the tests). The total sample included in the reported analyses therefore consisted of 118 participants: 60 men (50.8%) and 58 women (49.2%) between 18 and 68 years old ( $M_{\text{age}} = 31.76$ ,  $SD = 11.22$ ); 78.0% reported to be White/Caucasian, 8.5% Hispanic, 6.8% Asian, 5.1% African American, and 1.7% "other."

On the basis of Study 1a, participants played the SoMi paradigm under the following general instruction: "You are the first to choose" with the additional instruction that "you will not get to know what the other will choose." Randomly assigned to one of three conditions, participants would subsequently receive no further instruction (Condition 1), the instruction to "be sure to keep your own best interest in mind" (Condition 2), or the instruction to "be sure to keep the other person's best interest in mind" (Condition 3). These condition-specific instructions were repeated before each decision that was made. The dependent variable was the proportion of socially mindful choices.

## Results

An ANOVA, with age and gender included in the (general linear) model, revealed a strong and significant main effect of condition on social mindfulness,  $F(2, 111) = 40.28$ ,  $p < .001$ ,  $\eta_p^2 = .42$ . As predicted, means revealed that social mindfulness was greater in the other-oriented condition ( $M_{\text{other-oriented}} = .91$ ,  $SD = .21$ ) than in the control condition ( $M_{\text{control}} = .49$ ,  $SD = .26$ ) or self-oriented condition ( $M_{\text{self-oriented}} = .48$ ,  $SD = .23$ ). Confirming the pattern we found in Study 1a, pairwise comparisons showed that other-oriented participants scored significantly higher on social mindfulness than self-oriented participants,  $F(1, 111) = 65.81$ ,  $p < .001$ , or those in the control condition,  $F(1, 111) = 51.79$ ,  $p < .001$ . Being other-oriented differed from both other conditions together as well,  $F(1, 111) = 79.50$ ,  $p < .001$ . And again, we found no significant difference between the self-oriented and the control conditions,  $F(1, 111) < 1$ ,  $p = .622$ .

We did not find an age effect,  $F(1, 111) < 1$ ,  $p = .900$ ,  $\eta_p^2 = .00$ . Although the mean score for women seemed notably higher than the men's score ( $M_{\text{female}} = .68$ ,  $SD = .30$ ;  $M_{\text{male}} = .59$ ,  $SD = .31$ ), this difference was not statistically significant,  $F(1, 111) < 1$ ,  $p = .516$ ,  $\eta_p^2 = .00$ , nor was there an interaction with condition,  $F(2, 111) < 1$ ,  $p = .429$ ,  $\eta_p^2 = .02$ .

### Study 1c

Study 1b addressed the question of whether the wish to gain information about the other could alternatively explain our findings. But apart from *gaining* information, people may also wish to *provide* information to others by means of their choosing behavior. This communicative value of social mindfulness could of course be recruited from self-oriented or egoistical motives, and it is thinkable that choosing the redundant object may primarily serve to make a favorable impression on others without really considering their best interest. As a possible alternative explanation, this would challenge our claim that social mindfulness is inherently prosocial. But although we admit that promoting a favorable impression is part of what makes social mindfulness such a viable strategy in social life (which we explore in Studies 2a and 2b), we do not expect that self-oriented utility would completely eliminate the truly prosocial intentions in accounting for social mindfulness. To

test this alternative explanation, however, we conducted a second replication of Study 1a, but now crossed this with two conditions in which participants were told to imagine that the other either would or would not be informed about the task and the participants' choices. If other-regard indeed forms an intricate part of social mindfulness, a pattern like we found in both Studies 1a and 1b should hold even in the knowledge that information about the task and the choices will not be passed on to the other, rendering active impression management futile.

## Method

**Participants and procedure.** Like the previous study, Study 1c was conducted as an online survey for monetary compensation on Amazon's Mechanical Turk, with participation limited to the United States (see Buhrmester et al., 2011; Mason & Suri, 2012). Of the 278 people who completed the survey,<sup>4</sup> 53 participants failed a stringent double manipulation check (again, we report on the most conservative approach in which, after having finished the task, participants had to reconfirm both whether they expected the other to be informed about the task and their choices or not and what frame of mind we asked them to adopt [cf. Study 1b]; however, rerunning the analyses reported below with a single manipulation check on information expectation only— $N = 245$ —showed virtually identical patterns and results). The total sample included in the analyses therefore consisted of 225 participants: 112 men (49.8%) and 113 women (50.2%) between 18 and 68 years old ( $M_{\text{age}} = 34.05$ ,  $SD = 12.33$ ); 77.3% reported to be White/Caucasian, 6.7% Hispanic, 8.4% Asian, 4.4% African American, and 3.2% "other."

Similar to Studies 1a and 1b, participants were told that they were the first to choose in the SoMi paradigm. In a  $3 \times 2$  randomized experimental design, participants would subsequently receive no further instruction (Condition 1), the instruction to "be sure to keep your own best interest in mind" (Condition 2), or the instruction to "be sure to keep the other person's best interest in mind" (Condition 3), crossed with two conditions telling them that the other in the task (Condition i) "*would be informed* about the task and the choices you made" or (Condition ii) "*would not be informed* about the task and the choices you made." The dependent variable was again the proportion of socially mindful choices.

## Results

Replicating Studies 1a and 1b, a  $3$  (orientation; control, self-oriented, other-oriented)  $\times 2$  (information; other informed vs. not informed) ANOVA, with age and gender included in a general linear model, revealed a significant main effect of orientation on social mindfulness,  $F(2, 217) = 48.82$ ,  $p < .001$ ,  $\eta_p^2 = .31$ . As expected, social mindfulness was again greater in the other-oriented condition ( $M_{\text{other-oriented}} = .83$ ,  $SD = .26$ ) than in the control ( $M_{\text{control}} = .58$ ,  $SD = .24$ ) or self-oriented ( $M_{\text{self-oriented}} = .47$ ,  $SD = .18$ ) conditions. Pairwise comparisons showed that other-oriented participants scored significantly higher on social mindfulness than self-oriented participants,  $F(1, 217) = 94.66$ ,  $p < .001$ , or those in the control condition,  $F(1, 217) = 44.73$ ,

<sup>4</sup> Eleven additional people opened but did not complete the study, and thus could not be included in the analyses.

$p < .001$ . Being other-oriented differed from both other conditions together as well,  $F(1, 217) = 87.60$ ,  $p < .001$ . Similar to the previous two studies, the overall difference between the self-oriented and control conditions was relatively small, but this time it did reach significance,  $F(1, 217) = 9.84$ ,  $p = .002$ .

Information, subdivided in two conditions in which participants were told that the other person in the paradigm would or would not be informed about the task and their choices, lead to identical mean scores on Social Mindfulness ( $M_{\text{info}} = .62$ ,  $SD = .23$ ;  $M_{\text{no info}} = .62$ ,  $SD = .31$ ), and accordingly did not have a main effect,  $F(1, 217) = 1.32$ ,  $p = .251$ ,  $\eta_p^2 = .01$ , nor did we find an interaction effect between the orientation and information conditions,  $F(2, 217) < 1$ ,  $p = .940$ ,  $\eta_p^2 = .00$ . Although the men in this sample generally seemed to score slightly higher than women ( $M_{\text{male}} = .63$ ,  $SD = .26$ ; and  $M_{\text{female}} = .61$ ,  $SD = .28$ ), this difference was not significant,  $F(1, 217) = 2.35$ ,  $p = .127$ ,  $\eta_p^2 = .01$ . Age did not have a main effect either,  $F(1, 217) < 1$ ,  $p = .676$ ,  $\eta_p^2 = .00$ . Taken together, these results make it safe to conclude that other-regard must play a defining role in social mindfulness, regardless of whether one expects the other to hear about it or not.

## Discussion

In support of the orientation hypothesis, a self-oriented or neutral mindset made participants leave less choice to others than an other-oriented mindset. When explicitly brought to attention, the others in our paradigm were left more room to maneuver. By not immediately choosing what they otherwise impulsively might have, people indeed acted socially mindful toward their immediate social environment. This pattern also emerged when the options to gain information about the other or to make a favorable impression were explicitly blocked. Leaving choice to others in the SoMi paradigm may thus be seen as an other-regarding action based on prosocial intentions. This builds on what Yamagishi et al. (2008) noticed when their studies showed that most people preferred the unique option when by themselves, but at the same time tended to avoid this unique option when under social pressure. They explained this pattern by an underlying wish to not stand out in a negative way. We extend this reasoning by arguing that a strong prosocial motivation to choose the doubled object in our paradigm may be strengthened by the active wish to make an impression in a positive way by leaving some choice for the person that comes next. A prosocial value orientation also showed to be a likely candidate in the motivational mix for social mindfulness.

### Meeting Mindfulness

Our reasoning holds that socially mindful behavior is a sign of underlying prosocial motivations and can be used as a strategy in interpersonal communication. But for that strategy to be successful in social interaction, this signal first has to be picked up. The question therefore is whether an act of social mindfulness will be seen and appreciated by others. Does it indeed make the actor more likable? This we investigated in Studies 2a and 2b. We hypothesized that increasing perceived mindfulness would lead to increased liking and more favorable social judgments (perceived mindfulness hypothesis). We programmed the SoMi paradigm in such a way that participants went through an interaction in which someone else made the first choice, after which we assessed how

this person was perceived and rated on a series of social judgments. It might make a difference if people are directly involved in such an interaction and personally feel the consequences of the other's choices, or if they only witness an interaction between two other people. Is mere perceived mindfulness enough to alter social judgments, or does an observer need to be personally involved? To test this, participants in Study 2a could be either the second chooser in a dyadic situation or the neutral observer of such an interaction between two other people. The first chooser in the task—the target person—could always make two mindful choices: one or none at all. Study 2b was a basic online replication sampling a different population.

## Study 2a

### Method

**Participants and design.** For Study 2a, we recruited 29 men and 38 women ( $N = 67$ ) at the campus of VU University Amsterdam ( $M_{\text{age}} = 20.79$ ,  $SD = 3.15$ ). They were compensated for their voluntary participation with €2.50 (about \$3.26 U.S.) or study credits. The experiment was constructed in a 2 (condition receiver; receiver vs. observer)  $\times$  3 (perceived mindfulness; never, once, or twice mindful) design. Participants were assigned to conditions in a randomized procedure.

**Procedure and materials.** Upon arrival, participants were greeted and told that this study consisted of three unrelated parts. The study was run in completely closed cubicles equipped with computers. Part 1 started off with a few questionnaires assessing various personality-based tendencies and orientations, meant both as filler and control variables (all on a 7-point Likert scale), including Self-Control (11 items, e.g.; "I wish I had more self-discipline,"  $\alpha = .76$ ; Tangney, Baumeister, & Boone, 2004), Dispositional Trust (nine items, e.g., "I fully trust most other people,"  $\alpha = .75$ ), Empathic Concern (seven items, e.g., "I often have tender, concerned feelings for people less fortunate than me,"  $\alpha = .81$ ), and Perspective Taking (seven items, e.g., "I sometimes try to understand my friends better by imagining how things look from their perspective,"  $\alpha = .72$ ; Interpersonal Reactivity Index [IRI]; Davis, 1983).

In Part 2, participants were ostensibly connected to a server on which a variety of other participants appeared to be logged in. In reality, this connection was virtual and the presence of the others preprogrammed. Participants were informed that this electronic collaboration between a couple universities in Holland allowed for a variety of tasks and games. To make this multitask set up more credible, we started with a simple task in which participants had to recognize numbers that were hidden in differently colored backgrounds. This was performed alone. The next task, in fact our manipulation, was run in one of two conditions: Participants either played a game with someone else (Condition 1) or observed the same game played by two other people (Condition 2).

In Condition 1, participants were told that they were randomly teamed up with one of the other participants logged in. However, this always turned out to be "Hans." Besides the name, no further information was provided. Next, the computer determined the roles for the following task (SoMi paradigm; see the General Method section). It was decided and communicated that Hans would be the one to make the choices. In other words, the program

was rigged in such a way that the participant would always have to wait and see what was left after Hans had made his decisions. Hans then portrayed one of three behaviors: Out of two rounds, he would (a) pick the unique object twice, and thus never show to be mindful of the participant; (b) pick the unique object once and the doubled object once, thus making one mindful and one unmindful choice; or (c) pick the doubled object twice, which made for two mindful choices.

In Condition 2, participants were chosen to observe an interaction between two people who turned out to be “Hans” and “Patrick.” Again, Hans was ostensibly chosen by the computer to make the first choices. The participants subsequently witnessed how Patrick was met with no mindful choice at all, one mindful and one unmindful choice, or two mindful choices. This concluded Part 2, and participants were “logged off.”

As dependent variables, in Part 3 we subsequently assessed how participants rated the virtual actor Hans on a range of social skills and aspects. These included a scale for Perceived Self-Control (how much self-control do you think Hans possesses; 11 items,  $\alpha = .75$ ; Tangney et al., 2004), willingness to collaborate (how much would you like to collaborate with Hans; three items,  $\alpha = .91$ ), Desire to meet in real life (how much would you like to meet Hans; three items,  $\alpha = .81$ ), Liking (how much do you like Hans; three items,  $\alpha = .81$ ), Relationship-Specific Trust (how much do you trust Hans; three items,  $\alpha = .86$ ), Perceived Self-Interestedness (how self-interested do you think Hans is; three items,  $\alpha = .77$ ), and Inclusion of Other in Self (how close do you feel to Hans; IOS, Aron, Aron, & Smollan, 1992). On completion of this last part, participants were thanked and fully debriefed.

## Results

We conducted a 2 (receiver; receiver vs. observer)  $\times$  3 (other’s mindful behavior; never, once, or twice mindful) multivariate general linear model, including Empathic Concern, Perspective Taking, Self-Control, and Dispositional Trust to examine how the level of other people’s mindful behavior would impact the collected judgments. At the outset, we should note that at the multivariate level, we did not observe any significant effect involving differences between receiver versus observer, neither as main effect,  $F(7, 45) = 1.44, p = .214, \eta_p^2 = .18$  (Pillai’s trace), nor as interaction with the Other’s Mindful Behavior,  $F(14, 92) = 0.77, p = .703, \eta_p^2 = .10$  (Pillai’s trace). At the same time, and as predicted, we did find a strong main effect for the Other’s Mindful

Behavior (i.e., perceived mindfulness),  $F(14, 92) = 4.30, p < .001, \eta_p^2 = .40$  (Pillai’s trace).

Qualifying this, a between-subjects ANOVA showed a pattern suggesting that increasing perceived mindfulness made for participants who liked Hans better,  $F(2, 51) = 10.73, p < .001, \eta_p^2 = .30$ , were more eager to collaborate with him,  $F(2, 51) = 11.76, p < .001, \eta_p^2 = .32$ ; trusted him more,  $F(2, 51) = 7.55, p = .001, \eta_p^2 = .23$ ; and thought him to possess more self-control,  $F(2, 51) = 7.49, p = .001, \eta_p^2 = .23$ . Participants also felt somewhat closer to Hans (IOS),  $F(2, 51) = 3.68, p = .032, \eta_p^2 = .13$ . However, they thought that a less mindful treatment was a clear sign of Hans being more self-interested,  $F(2, 51) = 25.47, p < .001, \eta_p^2 = .50$ . But notwithstanding a similar pattern, Hans’ way of choosing did not seem to influence how much participants would like to meet him in real life,  $F(2, 51) = 0.48, p = .620, \eta_p^2 = .02$ . These results, including mean scores, are summarized in Table 1.

Pairwise comparisons showed that a little mindfulness goes a long way: In general, mean scores proved statistically different between the conditions of never mindful, on the one hand, and the conditions of once and/or twice mindful, on the other (except for perceived self-interestedness, where all differences were significant), whereas the scores between once and twice mindful generally were not statistically different (see superscripts in Table 1). This indicates that it might be mainly the *absence* of social mindfulness that people pick up as most salient.

Because of its close relation with social mindfulness, scores on the two domains of the IRI (Davis, 1980, 1983) might have moderated the effects reported above. However, Empathic Concern did not significantly interact with perceived mindfulness,  $F(14, 92) = 1.36, p = .187, \eta_p^2 = .17$  (Pillai’s trace), or the receiver condition,  $F(7, 45) = 2.17, p = .055, \eta_p^2 = .25$  (Pillai’s trace), nor did it have a main effect,  $F(7, 45) = 0.70, p = .670, \eta_p^2 = .10$  (Pillai’s trace). Main and interaction effects of Perspective Taking were also nonsignificant,  $F(7, 45) = 1.93, p = .086, \eta_p^2 = .23$  (Pillai’s trace) for the main effect, and  $F(14, 92) = 1.52, p = .121, \eta_p^2 = .19$  versus  $F(7, 45) = 1.66, p = .143, \eta_p^2 = .21$  (Pillai’s trace) for the interactions with perceived mindfulness and the receiver condition, respectively. Self-Control was not significant as well,  $F(7, 45) = 0.71, p = .665, \eta_p^2 = .10$  (Pillai’s trace), but Dispositional Trust had a significant main effect of  $F(7, 45) = 2.39, p = .037, \eta_p^2 = .27$  (Pillai’s trace); participants with higher levels of general trust seemed to like Hans better,  $F(1, 51) =$

Table 1  
Simple Effects and Mean Scores for Perceived Mindfulness (Never, Once, or Twice Mindful Treatment) in Study 2a

Variable	$F(2, 51)$	$p$	$\eta_p^2$	$M_{\text{never}} (SD)$	$M_{\text{once}} (SD)$	$M_{\text{twice}} (SD)$
Liking	10.73	< .001	.30	3.65 (1.04) <sup>a</sup>	4.51 (0.68) <sup>b</sup>	4.63 (0.71) <sup>b</sup>
Trust	7.55	.001	.23	3.57 (0.93) <sup>a</sup>	4.49 (1.01) <sup>b</sup>	4.56 (0.76) <sup>b</sup>
Collaboration	11.76	< .001	.32	3.52 (1.26) <sup>a</sup>	4.51 (1.12) <sup>b</sup>	4.86 (0.62) <sup>b</sup>
IOS	3.68	.032	.13	2.86 (1.80) <sup>a</sup>	3.89 (1.05) <sup>b</sup>	3.78 (1.63) <sup>b</sup>
Self-interest (perc.)	25.47	< .001	.50	5.21 (0.93) <sup>a</sup>	4.25 (0.91) <sup>b</sup>	3.11 (0.86) <sup>c</sup>
Self-control (perc.)	7.49	.001	.23	3.81 (0.62) <sup>a</sup>	4.46 (0.53) <sup>b</sup>	4.44 (0.42) <sup>b</sup>
Meeting	0.48	.620	.02	3.44 (1.28) <sup>a</sup>	3.90 (1.33) <sup>a</sup>	3.95 (1.12) <sup>a</sup>

Note. No significant effects for the receiver/observer condition included in the model, and no interaction with perceived mindfulness and/or empathy. Mean scores on a 7-point Likert scale. Significant differences per row are indicated by dissimilar superscripts. IOS = Inclusion of Other in Self; perc. = perceived.

Table 2  
Simple Effects and Mean Scores for Perceived Mindfulness (Never, Once, or Twice Mindful Treatment) in Study 2b

Variable	$F(2, 136)$	$p$	$\eta_p^2$	$M_{\text{never}} (SD)$	$M_{\text{once}} (SD)$	$M_{\text{twice}} (SD)$
Liking	14.00	< .001	.17	2.93 (0.59) <sup>a</sup>	3.40 (0.53) <sup>b</sup>	3.52 (0.57) <sup>b</sup>
Trust	7.37	.001	.10	2.83 (0.62) <sup>a</sup>	3.22 (0.59) <sup>b</sup>	3.26 (0.56) <sup>b</sup>
IOS	0.45	.640	.01	1.82 (1.53) <sup>a</sup>	2.11 (1.40) <sup>a</sup>	2.00 (1.46) <sup>a</sup>
Self-interest (perc.)	23.75	< .001	.26	3.50 (0.63) <sup>a</sup>	3.07 (0.68) <sup>b</sup>	2.56 (0.68) <sup>c</sup>
Meeting	1.06	.351	.02	3.04 (0.87) <sup>a</sup>	3.13 (0.70) <sup>a</sup>	3.25 (0.58) <sup>a</sup>

Note. Significant differences per row are indicated by dissimilar superscripts. Mean scores on a 5-point Likert scale. IOS = Inclusion of Other in Self; perc. = perceived.

14.45,  $p < .001$ ,  $\eta_p^2 = .22$ ; trust him more,  $F(1, 51) = 7.73$ ,  $p = .008$ ,  $\eta_p^2 = .13$ ; and be more willing to collaborate with him,  $F(1, 51) = 13.74$ ,  $p = .001$ ,  $\eta_p^2 = .21$ .

### Study 2b

Study 2b was aimed at providing replication of Study 2a, with one small but potentially important modification. The basic procedure was the same as in Part 2 of Study 2a, without the number identification task. Participants witnessed someone else making two more or less mindful choices. Because the receiver versus observer condition did not elicit different responses in Study 2a, we simplified the manipulation to an interaction in which the participant would be second to choose only (i.e., receiver). Also, instead of ostensibly logging in to a live research session, we now told participants that somebody else had already made his choices at an earlier moment and that we would use these results. This otherwise anonymous person was to be named "Chris," for whom no further information was provided. Furthermore, participants were told that Chris would not be informed about which of the objects they would like (cf. Study 1b).

### Method

**Participants and procedure.** Study 2b was conducted as an online survey for monetary compensation on Amazon's Mechanical Turk, with participation limited to the United States (Buhrmester et al., 2011; Mason & Suri, 2012). The survey was completed by 139<sup>5</sup> participants: 73 men (52.5%) and 66 women (47.5%) between 18 and 69 years old ( $M_{\text{age}} = 31.58$ ,  $SD = 11.65$ ); 84.9% reported being White/Caucasian, 7.2% African American, 3.6% Asian, 2.9% Hispanic, 1.4% "other."

After receiving an explanation of the SoMi paradigm and performing an example trial in which they could make a first choice themselves, participants went through the same procedure as in Study 2a; they saw Chris pick the unique object twice (never mindful), pick the unique object once and the doubled object once (once mindful), or pick the doubled object twice (twice mindful). Afterward, we asked questions about the participants' impression of Chris on five domains, answered on a 5-point scale:<sup>6</sup> Desire to meet in real life (how much would you like to meet Chris; three items,  $\alpha = .83$ ), Liking (how much do you like Chris; three items,  $\alpha = .84$ ), Relationship-Specific Trust (how much do you trust Chris; three items,  $\alpha = .87$ ), Perceived Self-Interestedness (how self-interested do you think Chris is; three items,  $\alpha = .81$ ), and IOS (how close do you feel to Chris; Aron et al., 1992).

### Results

Multivariate analysis in a general linear model showed that our manipulation had a significant effect on the assembled dependent variables,  $F(10, 266) = 5.63$ ,  $p < .001$ ,  $\eta_p^2 = .18$  (Pillai's trace). The same pattern as in Study 2a emerged. An increasing degree of other's mindfulness suggested that participants liked the other person better,  $F(2, 136) = 14.00$ ,  $p < .001$ ,  $\eta_p^2 = .17$ ; trusted him more,  $F(2, 136) = 7.37$ ,  $p = .001$ ,  $\eta_p^2 = .10$ ; and thought him to be less self-interested,  $F(2, 136) = 23.75$ ,  $p < .001$ ,  $\eta_p^2 = .26$ . Like in the previous study, parameter estimates showed that one mindful choice was enough to drive these effects, in the sense that the differences between never mindful and once or twice mindful proved significant, whereas the mean scores for once and twice mindful did not significantly differ (except for perceived self-interestedness). However, in this sample, more mindfulness did not lead to feelings of increased closeness (IOS),  $F(2, 136) = 0.45$ ,  $p = .640$ ,  $\eta_p^2 = .01$ . Again in line with Study 2a, meeting mindfulness did not strengthen the wish to actually meet Chris in person,  $F(2, 136) = 1.06$ ,  $p = .351$ ,  $\eta_p^2 = .02$ . These results are summarized in Table 2.

### Discussion

Results from Studies 2a and 2b revealed that meeting mindfulness does enhance the chance that people like the mindful actor better, trust him more, are more willing to collaborate, and feel somewhat closer to him than being confronted with a total absence of mindfulness (perceived mindfulness hypothesis). Moreover, it seems that people grace the other with the benefit of the doubt by being somewhat forgiving if one out of two choices is not socially mindful. But although level of trust and liking decrease but do not significantly alter before social mindfulness is no longer present, the danger of being seen as self-interested rises with declining perceived social mindfulness. Combined with the results of Studies 1a through 1c, it seems plausible to reason that the mindful choice in the SoMi paradigm comes from the interest people take in others, which in turn is noticed and appreciated by those others.

<sup>5</sup> Eleven additional people opened but did not complete the study, and thus could not be included in the analyses.

<sup>6</sup> In the context of this Internet study, a 5-point scale, as opposed to the 7-point scale used in Study 2a, was more clear and straightforward, which we thought preferable. We felt comfortable doing so because when rescaled, 5-point and 7-point scales tend to produce the same mean scores (Dawes, 2008).

This makes social mindfulness a useful and viable strategy in social interaction.

### Study 3: Mindfulness at Face Value

Even a good social strategy may not always work the same way when facing different other people. Social mindfulness might be more strongly activated with some partners than with others. But how do people decide when to engage in social mindfulness, and how much information about the other person is needed for such a decision? It might not be very much. In Study 3, we showed people a headshot of their (supposed) partner in the SoMi paradigm (see the General Method section). These photos were carefully selected to portray either trustworthiness or untrustworthiness (Lundqvist, Flykt, & Ohman, 1998; Oosterhof & Todorov, 2008).

Research has shown that people are very quick in deriving certain trait inferences from facial appearance (Todorov, Said, Engel, & Oosterhof, 2008), with trustworthiness being one of two dimensions that those trait inferences can be represented in (the other axis is dominance). Also, inferences along the trustworthiness dimension are anchored in similarities to expressions that signal approach or avoidance behavior (high trust is approach, low trust is avoidance; Todorov et al., 2008). Although not necessarily accurate, there is strong consensus on what constitutes a trustworthy face and what does not. At the neural level, this is reflected in an amygdala that is responsive to the perception of trustworthiness (Rule, Krendl, Ivcevic, & Ambady, 2013).

Because in Studies 2a and 2b we saw that perceived mindfulness is related to greater trust, and based on the notion that trust plays a defining role in social mindfulness between friends (Van Lange, Van Doesum, Vuolevi, & Finkenauer, 2013), we hypothesized that people with faces that score high on trustworthiness would elicit greater levels of social mindfulness than people who score low on this feature (trustworthiness hypothesis).

### Method

**Participants and design.** A total of 85 students at VU University Amsterdam (40 men and 45 women) volunteered to participate in this study in exchange for €3.50 (about \$4.57 U.S.) or course credits. Recruitment was done by distributing flyers on campus in the morning and occurred spontaneously by walk-ins to the laboratory. Participants would perform the SoMi paradigm with a partner who had either a trustworthy (Condition 1) or an untrustworthy face (Condition 2). This experiment was embedded in a larger study in which exposure to these faces was used as an independent variable to test various and otherwise unrelated hypotheses. Here we only report on this context-relevant dependent measure of social mindfulness.

**Procedure and materials.** Coming into the laboratory, participants first had their picture taken with a digital camera by one of the experimenters. This was to make plausible that in the ensuing task, they would be presented with the headshot of another person supposedly present in the laboratory. Participants then were placed in separate cubicles that were equipped with a computer holding the software for the experiment. They were asked to wait a little for their headshot to be uploaded to the system, and supposedly for their partner to get ready in another cubicle. Next, the experimenter would come back to start the computer program;

further instructions were given onscreen. Participants then were introduced to their task partners by a headshot that appeared on the computer monitor. To minimize the chance of romantic attraction, partners were always of the same sex as the participant. The partner had either a trustworthy or an untrustworthy face; conditions were randomly assigned. The headshots were derived from the Karolinska data set of standardized facial images (Lundqvist et al., 1998; Oosterhof & Todorov, 2008). The task was identical to the one we used in Studies 1a through 1c, which had people choose one among three objects in five different categories, once repeated in reversed quantities, for a total of 10 choices.

### Results

A one-way ANOVA provided support for the trustworthiness hypothesis by showing that the level of trustworthiness of the task partner's face had a small but significant effect,  $F(1, 83) = 3.96$ ,  $p = .050$ ,  $\eta_p^2 = .05$ ; participants had indeed been more socially mindful toward partners with a trustworthy face ( $M_{\text{trustworthy}} = .69$ ,  $SD = .19$ ) than toward those with an untrustworthy face ( $M_{\text{untrustworthy}} = .60$ ,  $SD = .22$ ).

### Discussion

Our findings revealed that meeting someone new with a trustworthy face may indeed lead to enhanced levels of social mindfulness. Of course further and more extensive research is necessary, but in the meanwhile we tentatively conclude that when a quick visual assessment tells that an interaction partner may be trustworthy, this might be rewarded with a more mindful treatment. A possible explanation is that perceived trustworthiness enhances the chance that the actor's own social mindfulness—a sign of prosocial intentions—will be reciprocated at a later point in time, ultimately leading to mutual positive regard and a more cooperative social environment. Untrustworthiness, however, might increase the fear that one will be taken advantage of—in social dilemma terms, to get stuck with the sucker's payoff.

In Studies 2a and 2b, we showed that perceived mindfulness had a beneficial effect on people's evaluation of others—"I like you when I see you being mindful of me or others"—to which Study 3 added that the mere expectation of trustworthiness may already motivate people to be more mindful of others—"I trust you, therefore I will be mindful of you." In both cases, trait inferences mattered, be they derived from facial cues or perceived behavior. But what about the mindful choosers themselves?

### Study 4: The Socially Mindful Person

Although influenced by social context and perceived qualities of another person, it is to be expected that social mindfulness can be traced in underlying personality structures of the actor. In Study 4, we therefore sought to provide further validation of our paradigm to support this argument. Other-oriented in nature, we expected social mindfulness to be associated with traits that communicate other-regard and lead people to not put one's own best interest before the others' (personality hypothesis). A commonly used measure in personality research is the Big Five, or five-factor model (e.g., Costa & McCrae, 1992; Goldberg, 1990). However, recent research has shown that personality might be more accu-

rately described in six rather than five factors. The additional sixth factor in this HEXACO model (Ashton & Lee, 2007, 2008, 2010; Ashton et al., 2004; Lee & Ashton, 2008), called *Honesty-Humility*, seemed promising as a predictor for social mindfulness, because it is built up from the smaller personality facets of Sincerity, Fairness, Greed Avoidance, and Modesty, all of which could be expected to be connected to social mindfulness. Agreeableness as a trait (factor) is another good candidate for running along the lines of social mindfulness, as it seeks to bring the self in agreement with others.

One of the other pillars of social mindfulness is the level of empathy that one person may have for the other. According to Davis (1983), the broad concept of empathy can be divided into four domains: Empathic Concern (EC), Perspective Taking (PT), Fantasy Scale (FS), and Personal Distress (PD). We theorized earlier that an underlying motivation for social mindfulness might come from empathy and wanted to test this assumption as well. We were especially interested in the domains of PT and EC, because these relate adequately to skill (PT) and will (EC) to adjust one's behavior for the sake of others. We therefore hypothesized that both of these domains would be associated with social mindfulness. PD, however, would not, because of its inherent self-orientedness.

Another way to assess people's level of perspective taking is to evaluate how good they are at reading other people's emotional states. For this purpose, Baron-Cohen, Wheelwright, Hill, Raste, and Plumb (2001) developed the Reading the Mind in the Eyes Test (revised version) in which participants get to see photos of eyes only and have to indicate which of four given emotions they think is expressed. Because of a shared higher level of attentiveness to others and affective perspective taking, we expected that participants who were better at reading the emotional states of other people would also show higher levels of social mindfulness.

In order to find further support for the SVO hypothesis, we once again administered measures of SVO (see Study 1a), this time both in the well-validated nine-item triple dominance measure (e.g., Van Lange, 1999; Van Lange et al., 1997) as in a new approach that assesses SVOs on a continuous scale (SvoSlider; Murphy, Ackermann, & Handgraaf, 2011). And finally, we included a few scales that plausibly could provide alternative explanations, like the need to belong, dispositional trust, or general mindfulness (i.e., participants' general level of attention and awareness). This helped us explore whether social mindfulness might have roots in any of these broad constructs.

## Method

**Participants.** Analyses in Study 4 were based on the participation of 186 people recruited at VU University Amsterdam (68 men and 118 women;  $M_{\text{age}} = 20.44$ ,  $SD = 3.16$ ) (one female nonstudent of 52 years old also participated but was excluded from analyses to keep the sample coherent; the only structural difference was that keeping this participant made the age effect significant). As in the previous studies that we ran in the laboratory, this study was advertised by means of flyers distributed on campus in two major cafeterias. Participants were compensated with €3.50 (about \$4.57 U.S.) or study credits.

**Procedure and materials.** First, participants completed the Dutch version of the HEXACO Personality Inventory-Revised

(HEXACO-PI-R; 100 items; De Vries, Ashton, & Lee, 2009; de Vries, Lee, & Ashton, 2008). This resulted in scores on the broad personality factors of Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, and Openness to Experience, including all of their constituting smaller spectrum facets. For scale reliabilities, see Tables 3 and 4.

Next, the SoMi paradigm was played with the participant making all the choices, without specific instruction and with an anonymous other in mind. This would provide us with a predominantly personality-oriented general score on social mindfulness. After that, a measure of the participants' Need to Belong was taken (NTB; 10 items,  $\alpha = .80$ ; Baumeister & Leary, 1995; Leary, Kelly, Cottrell, & Schreindorfer, 2007), followed by their SVO (nine-item triple measure of dominance; Van Lange, 1999; Van Lange et al., 1997). Preliminary analysis showed that five participants were unclassifiable for making fewer than six consistent choices. Following standard procedure, these participants were excluded from all analyses involving SVO ( $n = 163$ ). Using the same classification criteria as in Study 1a, we observed a similar distribution of SVO: 102 prosocials (63%), 52 individualists (32%), and nine competitors (5%).

Subsequently, we assessed Empathy, subdivided in the four factors of the IRI, being EC ( $\alpha = .79$ ), PT ( $\alpha = .64$ ), FS ( $\alpha = .87$ ), and PD ( $\alpha = .82$ ) (Davis, 1983). The procedure continued with the Reading the Mind in the Eye Test (revised version; Baron-Cohen et al., 2001) and a scale measuring Dispositional Trust (nine items, e.g., "I fully trust most other people";  $\alpha = .78$ ). After that, we administered a second measure of SVO, this time conceptualized as a continuous variable with scores (degrees) that rise from competitor through individualist and prosocial to altruist (SvoSlider; Murphy et al., 2011). This was followed by the Mindfulness Attention Awareness Scale (MAAS;  $\alpha = .80$ ; Brown &

Table 3  
*Correlations and Omnibus Relative Weight Analysis for Social Mindfulness and HEXACO-PI-R, SvoSlider, Interpersonal Reactivity Index, MAAS, Need to Belong, Reading the Mind in the Eye, and Dispositional Trust in Study 4*

Variable	<i>r</i>	<i>p</i>	$\alpha$	<i>rw</i>
HEXACO				
Honesty-Humility	.32	< .001	.80	20.5%
Emotionality	.13	.083	.86	1.6%
Extraversion	-.05	.495	.81	1.1%
Agreeableness	.24	.001	.84	12.5%
Conscientiousness	.05	.496	.80	0.4%
Openness to Experience	.05	.534	.76	0.8%
SvoSlider	.40	< .001	—	36.4%
Interpersonal Reactivity Index				
Empathic Concern	.28	< .001	.79	7.1%
Perspective Taking	.21	.005	.64	3.2%
Fantasy Scale	.17	.019	.87	7.6%
Personal Distress	.07	.356	.82	0.5%
MAAS	-.07	.336	.80	1.0%
Need to Belong	.13	.068	.80	5.2%
Reading the Mind in the Eye	.03	.731	.87	0.6%
Dispositional Trust	.11	.121	.78	1.5%

*Note.* HEXACO-PI-R = HEXACO Personality Inventory-Revised; MAAS = Mindfulness Attention Awareness Scale; *rw* = relative weight (J. W. Johnson, 2000); Svo = Social value orientation. Total  $R^2 = .25$ . Dash indicates not applicable.

Table 4  
Correlations and Relative Weight Analysis for Social Mindfulness and the Facets of the HEXACO-PI-R in Study 4

Facet	<i>r</i>	<i>p</i>	$\alpha$	<i>rw</i>
Sincerity	.12	.106	.66	1.5%
Fairness	.19	.009	.78	5.3%
Greed Avoidance	.25	.001	.82	8.6%
Modesty	.30	< .001	.65	19.7%
Fearfulness	-.01	.940	.65	1.4%
Anxiety	.09	.227	.74	1.6%
Dependence	.07	.373	.80	1.0%
Sentimentality	.23	.001	.76	11.1%
Social Self-Esteem	-.06	.387	.62	1.4%
Social Boldness	-.19	.012	.68	10.2%
Sociability	.08	.263	.61	2.5%
Liveliness	.04	.556	.71	1.0%
Forgiveness	.15	.036	.76	3.0%
Gentleness	.20	.007	.65	2.3%
Flexibility	.21	.004	.63	8.1%
Patience	.16	.027	.73	2.3%
Organization	-.05	.546	.71	2.9%
Diligence	.12	.117	.64	2.7%
Perfectionism	.07	.325	.69	0.8%
Prudence	.02	.761	.57	0.5%
Aesthetic Appreciation	.10	.181	.66	0.7%
Inquisitiveness	-.09	.227	.66	3.3%
Creativity	.05	.491	.60	0.5%
Unconventionality	.08	.263	.47	6.3%
Altruism	.17	.019	.53	1.3%

Note. HEXACO-PI-R = HEXACO Personality Inventory-Revised; *rw* = relative weight (J. W. Johnson, 2000); total  $R^2 = .27$ .

Ryan, 2003), a scale that assesses self-directed general awareness and attention without taking other people's perspective in account, after which the study concluded with various demographic questions and a full debriefing.

## Results

An overview of the results of the main analyses is provided in Table 3. As hypothesized, social mindfulness ( $M = .60$ ,  $SD = .26$ ) significantly correlated with the broad personality factors of Honesty-Humility ( $r = .32$ ) and Agreeableness ( $r = .24$ ), indicating that higher scores were associated with higher levels of social mindfulness. Zooming in on the smaller spectrum facets, significant correlations with social mindfulness were found with Fairness ( $r = .19$ ), Greed Avoidance ( $r = .25$ ), Modesty ( $r = .30$ ), Sentimentality ( $r = .23$ ), Social Boldness ( $r = -.19$ ; a negative correlation implying that less bold is more mindful), Forgiveness ( $r = .15$ ), Gentleness ( $r = .20$ ), Flexibility ( $r = .21$ ), and Patience ( $r = .16$ ). Altruism was positively correlated as well ( $r = .17$ ), but this should be treated with caution because of a low alpha of .53.

In line with the empathy hypothesis, Empathy could also be associated with social mindfulness, in particular the domains of EC ( $r = .28$ ) and PT ( $r = .21$ ). FS proved to be positively correlated as well ( $r = .17$ ). As expected, PD did not seem to play a role in social mindfulness ( $r = .07$ , *ns*).

Participants completed various other measures. The correlations between Social Mindfulness and Reading the Mind in the Eye Test ( $r = .03$ ), Dispositional Trust ( $r = .11$ ), and MAAS ( $r = -.07$ ) were not significant, and NTB only marginally ( $r = .13$ ,  $p = .068$ ).

We did find a gender effect, however, revealing that women ( $M_{\text{women}} = .65$ ,  $SD = .23$ ) tended to be more socially mindful than men ( $M_{\text{men}} = .51$ ,  $SD = .29$ ),  $F(1, 184) = 12.46$ ,  $p = .001$ ,  $\eta_p^2 = .06$ . Also, regression analysis turned up a marginally significant age effect, in the sense that the level of social mindfulness slightly decreased with age ( $B = -.01$ ),  $t(184) = -1.95$ ,  $p = .053$ ,  $\eta_p^2 = .02$ .

An omnibus test of relative weight (J. W. Johnson, 2000) showed that the SvoSlider (Murphy et al., 2011) stood for 36.4% of the total explained variance ( $R^2 = .25$ ), Honesty-Humility for 20.5%, and Agreeableness for 12.5%. EC showed a relative weight of 7.1%, PT 3.2%, and FS 7.6% (see Table 3). To avoid collinearity, the facets of the HEXACO-PI-R (sublevels constituting the bigger factors) were analyzed separately ( $R^2 = .27$ ). Modesty seemed to be the main driving force in this analysis (19.7%), followed by Sentimentality (11.1%), Social Boldness (10.2%), Greed Avoidance (8.6%), Flexibility (8.1%), Fairness (5.3%), Forgiveness (3.0%), Gentleness (2.3%), and Patience (2.3%). An overview of the HEXACO facets is provided in Table 4.

**SVO.** An ANOVA with SVO against Social Mindfulness revealed a main effect for SVO,  $F(2, 160) = 5.11$ ,  $p = .007$ ,  $\eta_p^2 = .06$ . Subsequent planned comparisons revealed that prosocials ( $M_{\text{prosocial}} = .65$ ,  $SD = .25$ ) exhibited greater social mindfulness than individualists ( $M_{\text{individualist}} = .52$ ,  $SD = .27$ ) and competitors ( $M_{\text{competitor}} = .52$ ,  $SD = .31$ ),  $F(1, 160) = 6.22$ ,  $p = .014$ . Not surprisingly, given the nearly identical means, the contrast between individualists and competitors was not significant,  $F(1, 160) < 1$ ,  $p = .975$ . These findings reveal that people with a prosocial orientation tended to be more socially mindful than those with a proself orientation (cf. De Cremer & Van Lange, 2001; Klapwijk & Van Lange, 2009; Van Kleef & Van Lange, 2008).

The second, continuous measure of SVO (SvoSlider; Murphy et al., 2011) confirmed this notion by showing a significant correlation of  $r = .40$ ,  $p < .001$ , suggesting that the more that people scored toward a prosocial orientation (i.e., a higher score on the scale), the higher they tended to score on the measure of social mindfulness.

## Discussion

Social mindfulness has a definite shape in personality. Results of this study showed that the socially mindful person also scored high on the broad personality factors of Honesty-Humility and Agreeableness, but not on Emotionality, Extraversion, Conscientiousness, or Openness to Experience. At the smaller spectrum facet level, Modesty, Greed Avoidance, Fairness, Sentimentality, Social Boldness (-), Forgiveness, Gentleness, Flexibility, and Patience were associated with social mindfulness (HEXACO-PI-R). All of these factors and facets are in some way related to respect for others and their perspective on the world, and to ways and means to not put oneself before the other. These findings support the idea that social mindfulness revolves around a benevolent take on the needs and interests of others and is rooted in prosocial motivations.

We could further corroborate this claim by reconfirming the positive connection between prosocial value orientations (SVO) and social mindfulness. Also, EC showed to be positively related to Social Mindfulness, followed by PT. The other-orientedness of social mindfulness furthermore became visible in the absence of

significant correlations with PD; the socially mindful person is likely to be concerned with the other rather than with him- or herself.

Against expectations, however, the Reading the Mind in the Eye Test did not significantly relate to Social Mindfulness. One possible explanation is that, as we wrote before, skill may be involved to set the perimeters or provide affordances, but the motivational context ultimately determines whether this skill is going to be used or not. In this study, participants had no specific other-regarding motive on which to base their decisions. Future experimental studies will have to decide whether greater skill in reading emotional states will enhance context-dependent social mindfulness.

An indication that *social* mindfulness is truly involved with the needs and interests of others rather than with oneself is that a measure of *general* mindfulness (MAAS; general level of attention and awareness; Brown & Ryan, 2003) did not correlate significantly with social mindfulness. Once again, it is not the capacity or tendency for heightened awareness in and of itself that is the driving force behind social mindfulness, but the combination of that skill with a motivated interest to honor the perspective of another person in social interaction. As such, social mindfulness is a concept that cannot be viewed apart from one's involvement with others. To be generally attentive and/or mindful does not automatically imply that one is also attentive to others.

### General Discussion

Social mindfulness could be enhanced by mere other-orientedness (Studies 1a through 1c) and proved to be associated with prosocial value orientations, empathy, and the personality factors of Honesty-Humility and Agreeableness (Study 4). Furthermore, perceived social mindfulness was rewarded with trust and liking, whereas meeting unmindful behavior resulted in a higher degree of perceived self-interestedness (Studies 2a and 2b). And, trustworthy faces elicited more social mindfulness from others than untrustworthy faces (Study 3). In other words, our studies show that people tend to be socially mindful in situations in which the perspective of others is both seen and appreciated; and when they are, they can count on it being acknowledged as a sign of appreciation for the other. This supports the claim that social mindfulness may be recruited in situations in which prosocial behavior is applicable and beneficial.

### Process and Outcome Interdependence

People making other-regarding choices are likely to adhere to a broader package of other-oriented beliefs, expectations, construals, affect, and emotions in situations in which self-interest collides with other-interest. The SoMi paradigm banks on exactly such interaction goals because, in a clear case of social interdependence, choices made by the one determine the range of possible outcomes for the other. In this context, social mindfulness will be one among all available strategies in the "prosocial package" that people may have developed to deal with such dilemmas (see also Van Lange & Van Doesum, 2012).

Not taking away outcome options for someone else is beneficial in building and maintaining interpersonal relationships. The mindful person might expect that incidental sacrifices to his or her own choice options will be compensated by increased appreciation by

the other, and possibly by greater interpersonal closeness and/or reciprocated mindfulness. In the social interactions of everyday life, it is not unthinkable for social mindfulness to contain some purely altruistic motives, but not without a concurrent motivation of improving relationships with the person(s) one is being mindful of. It is therefore not likely to be entirely void of self-interest, even if only about wanting to be liked.

Social mindfulness, as we define it, forms an innovative addition to the traditional prosocial package because it extends the directly value-oriented nature of measures like SVO and cooperation games like Prisoner's Dilemmas or Dictator Games in a very specific way. In what generally is understood as social dilemma situations, socially mindful behavior does not immediately determine what the other person will get. Rather, the prosociality of social mindfulness lies in granting other people the same level of control over their options as the first chooser—the actor himself or herself; that is, it can be found in not limiting the other person's options. In that sense, social mindfulness is not directly outcome driven, but rather oriented at control over outcomes (Kelley et al., 2003) or autonomy (cf. Deci & Ryan, 2000, 2012).

From the perspective of interdependence theory, the concept of social mindfulness may help provide an empirical basis for interdependence that is broader than outcome interdependence alone. Just as Thibaut and Walker (1975) have emphasized the importance of outcomes *and* process in justice evaluations (distributive and procedural justice; see also Tyler & Degoey, 1995), so has Kelley (1984) emphasized the importance of transitions from one decision situation to another, thereby emphasizing outcomes and the ways in which people may (or may not) attain outcomes (i.e., transition control). This transition list approach is important not only because it provides a broader conceptualization of interdependence—one that goes beyond outcomes in a narrow sense—but also because it captures a domain of everyday-life behaviors that are not fully captured by measurements only focusing on allocation of outcomes. Indeed, it strengthens the ecological validity in that it connects well with behaviors that focus on process, which makes issues such as respecting others' autonomy, thoughtfulness, and politeness become part of the empirical agenda of interdependence theory. The current research provides early validation of social mindfulness, but it is important to note that the theoretical logic and methodology can easily be extended to other domains of social psychology, including close relationships, small-group behavior, and even intergroup processes.

### Mindful

What makes social mindfulness rightfully *mindful* is that it includes a definite instance of awareness: the moment of simply "seeing it" without (and before) any evaluation or judgment of the situation. This requires a certain observational distance that is the same distancing process that is used as a springboard for psychotherapeutic improvements in mindfulness-based therapies. In this moment of awareness, the self is perceived from an observational distance in conjunction with the other. To illustrate, Ellen Langer (1989) wrote that the awareness of more than one perspective to a situation is key to a state of mindful being; this quality is also paramount to social mindfulness. A socially mindful actor will pair a certain level of awareness of options and consequences to a specific other-regarding motivation. But awareness and motivation

alone are not enough; in order to make mindful awareness truly social, it needs to be followed by actions that allow the targeted person to make autonomous choices. In other words, one needs to see *and* do it.

One indication that social mindfulness definitely requires an extra (mindful) step is our finding that people did not (Studies 1a and 1b) or only slightly (Study 1c) differed in social mindfulness between the instruction of self-orientedness and the control condition with no prior instruction. This suggests that the *modus operandi* by default veered toward self-orientedness, or reversely that self-orientedness did not specifically influence participants' choosing behavior. Although it is at this point impossible to tease those two apart, it may be clear that specifically the step to acknowledge the needs and interests of others in a shared social situation (i.e., other-orientedness) steers people's strategies in the SoMi paradigm toward greater social mindfulness. This once again indicates that people need to be motivated to be mindful of others before they actually are willing to portray socially mindful behavior; skill alone is not enough.

However, it still seems that people seek a certain level of social mindfulness from other individuals in their social environment. In Study 2, we saw that showing a little mindfulness is enough to keep interpersonal evaluations at a moderately positive level. Fully unmindful behavior immediately leads to less positive social judgments, however, and thus may be a signal of self-orientedness that gets picked up rather easily. A certain base rate of social mindfulness could therefore be important to show other people that they matter. However, signaling unmindfulness could also be put to strategic use in situations in which setting oneself apart from others would be beneficial. Results of a pilot study suggest that when ingroup versus outgroup emotions run high, as is the case in the competition between soccer teams, the choice to be socially unmindful toward a competitor may be the product of a very deliberate and functional decision that strengthens ingroup ties (Van Doesum, 2011).

### Alternative Explanations

In addition to maximizing other people's control over their outcomes, there might be other ways to explain the choice for the doubled object in the SoMi paradigm, or the majority choice. For instance, it could also be motivated by a desire to obtain information about the other person in the task. Surely, if one leaves the other something to choose from, the observation of what is subsequently chosen by the other might provide some information about this person's preferences and likings. Choosing the single object eliminates that opportunity. Other than socially mindful motivations, the wish to learn about a partner's preferences could spring from either egoistic or other-serving roots. But although such a wish for information could always play a role in the decisions of everyday life, when this option was explicitly blocked (Study 1b), decision patterns in the SoMi paradigm turned out to be exactly similar to when this was not the case (Study 1a). We therefore do not think that an information wish will be a major confounding factor in the SoMi paradigm.

Studies 2a and 2b showed that being socially mindful indeed reflects positively on the actor. Of course it is not unthinkable that people will only portray similar behavior in order to make a good impression on someone else, without really minding the best

interest or even considering the perspective of that other. Egoistic utility would then be disguised as ostensibly prosocial actions. Although one can never fully rule this out, Study 1c showed that when the possibility of making an impression was explicitly absent, be it negative or positive, the majority of participants still honored the other person's best interest when asked to do so—in the full knowledge that the other would never know about it. This strengthens the claim that social mindfulness holds prosocial intentions close at heart.

Another possible explanation for our findings would be that rather than being mindful, people mindlessly follow social or cultural norms. The general norm would be to not take away the unique item, without further explanation or motivation. However, when participants in our experiments did not receive specific instructions, they predominantly chose in the same way as when they were actually told to tend to their own best interest (Studies 1a through 1c). The norm to leave choice to others primarily got activated when the presence of these others was made salient and their best interest important. At the very least, this corroborates what Yamagishi et al. (2008) already brought up by saying that rather than following internalized cultural norms (e.g., Kim & Markus, 1999), people act like cultural game players by adjusting their strategies to the situation at hand (Hashimoto et al., 2011; Yamagishi et al., 2012). Socially mindful behavior requires that an interaction partner is actively acknowledged (“see it”) and deemed worthy of positive regard (“do it”).

We have mentioned earlier that our research is indebted to the work of Yamagishi et al. (2008). The defining feature of their paradigm was always majority versus minority choices, where the unique versus majority ratio of the available pens randomly varied between 1:4 and 2:3. Also, they exclusively used differently colored pens as objects. Majority choices were explained by a strategy to not stand out and accrue negative reputation, differing per culture and depending on the presence of others. But by always using a dyadic setting (i.e., there was always someone else involved in the task), making the choices always socially consequential (i.e., the first choice determined the outcome options for the other), and extending the range of choices to various and qualitatively different objects, we were able to further qualify majority choices as the result of people actively leaving outcome options to others. This makes the SoMi paradigm specifically applicable to situations of social interdependence. Beyond looking at how people regulate and protect their social reputation in general (Yamagishi et al., 2008), social mindfulness therefore takes a closer look at how people build and maintain interpersonal relationships within the broader context of their social and cultural environment.

### Implications and Future Directions

There is a specific aspect of the SoMi paradigm that we did not explore here but that might have implications for the theoretical explanation of the results. Out of three objects, the first chooser in the task always has two real choices (one object is always doubled). By choosing the doubled object, the first person leaves the second person two real choices as well. A socially mindful choice thus results in equal initial outcome options (the starting point for the chooser's decision). We also found that a prosocial value orientation was associated with a bigger proportion of socially mindful choices. Recent theorizing suggests that a prosocial value

orientation is probably more about egalitarianism, that is, a desire for equality in outcomes, than benevolence toward others (e.g., Eek & Garling, 2006; Fehr, Naef, & Schmidt, 2005; Messick & Sentis, 1985; Stouten, De Cremer, & Van Dijk, 2005; Van Lange & Van Doesum, 2012). This inequality aversion is even visible at the neurobiological level (Haruno & Frith, 2010). Future research will have to answer whether the other-regard in social mindfulness could similarly be qualified by an underlying goal of egalitarianism.

Regarding the skill part of our argument, a major building block in the cognitive construction of social mindfulness is one aspect of what is often called *executive functioning* (e.g., Borkowski & Burke, 1996; Denckla, 1996; Payne, 2005; Pronk, Karremans, Overbeek, Vermulst, & Wigboldus, 2010). Of the three key executive functions of updating, task switching, and inhibition, it is perhaps inhibition that will matter most in social mindfulness. Inhibition is a faculty that helps people to suppress automatic, dominant responses in order to focus their attention on other processes that also might be of interest (cf. Smith & Jonides, 1999). In several situations, this kind of inhibition forms a prerequisite to social mindfulness. In the SoMi paradigm, people for example tend to choose the unique, unmindful option more often when they have no further instructions (Studies 1a through 1c). Choosing the doubled, mindful object more frequently thus will require them to deviate from this default pattern, and hence to inhibit some of their primary impulses. Future research should explore whether and to what extent inhibition and other cognitive skills indeed matter in social mindfulness.

Using a paradigm with a cultural studies background, it is also necessary to investigate how and under which circumstances social mindfulness will be used in different cultural settings with different interaction styles and different reasons to be mindful of one another. The current studies were run in the Netherlands and the United States, both examples of a Western and predominantly individualized culture. In this setting, social mindfulness will arguably be geared toward pleasing other individuals to gain positive personal approval or self-reward. We therefore speculate that it will be driven by a *promotion* focus (e.g., Higgins, 1998; Lockwood, Jordan, & Kunda, 2002). But in more collectivistic cultures, like, for example, Japan, the reason to be socially mindful might rather be rooted in a *prevention* focus. In that case, social mindfulness might have the function of preventing the accrual of negative reputation (cf. Hashimoto et al., 2011; Yamagishi et al., 2008). Cultural comparisons will have to find an answer to these speculations.

### Mindful Caution

The current study can provide but the seeds to a forest of research yet to come. The goal has been to (re)introduce the construct of social mindfulness, establish its validity, advance a new paradigm, and offer a platform for further development of theory and research. But of course this endeavor had its limitations. Studies 1a through 1c found results thanks to a manipulation that left nothing to the imagination; our participants were explicitly told whom to mind, themselves or the other. Follow-up research will benefit from more subtle approaches to see under which circumstances social mindfulness will still emerge. However, at least we established that outright other-orientedness is likely to lead to socially mindful choices. In Studies 2a and 2b, participants based their ratings on an imaginary person. Field or live

interaction studies would be beneficial to corroborate our findings. Although empirically clean and straightforward, Study 3 stands in need of replication under more complex conditions. Study 4 was fully correlational. Further replication and experimental studies are called for to investigate and more closely understand the precise nature of the associations of social mindfulness and other-oriented tendencies.

Although we are convinced that social mindfulness is a useful tool in navigating the social world, its prosociality does have its boundaries. Indeed, a socially mindful choice in our paradigm may not turn out to yield positive consequences for the other at all. Specifically, one might imagine specific circumstances in which providing others with control over their own outcomes may not be the best expression of care for their well-being, and social mindfulness not really helpful. For example, other-regarding motives might be better served by restricting choice when the other is suffering from a dangerous addiction (see, e.g., Köpetz, Lejuez, Wiers, & Kruglanski, 2013). At the beginning of a recovery process, other-regard will be translated in keeping away any and all temptations—less choice is better. But eventually, the other will need to regain the strength to make independent choices in order to make a full recovery (i.e., to keep making intrinsically motivated choices to not use the substance), and meeting that person with social mindfulness again would be a sign of renewed trust and respect for the other as an autonomous actor within the larger context of society. A less dramatic example can be found in parenting and educating young children. Some rules just have to be learned and established in order to function successfully in the larger social context, and it is only later that people will really get to choose whether they agree and keep complying or not. In short, social mindfulness can only be an effective expression of other-regarding motives when offering control over outcomes is truly beneficial to the other.

Another issue we wish to address might be the erroneous assumption that mindful people are always correct in their assessment of other people's perspective; social mindfulness does not equal omniscience. But what matters is that people become aware of the mere fact that other people do have a perspective that is different from their own, and subsequently adjust their behavior in a way they think will accommodate the other. However, prosocial motives in general may fall short of accomplishing their goal when what the one assumes the other wants is not what the other wants at all. Especially in socially "noisy" situations (e.g., Klapwijk & Van Lange, 2009), intended helpfulness may easily turn into the opposite. Social mindfulness does provide a certain fail-safe, however, by aiming at providing the other person with options to choose from, and thus to grant control over the situational outcome. Only when the other does not want to choose but prefers a single option, the socially mindful person suffers from misplaced other-regarding decisions. Nevertheless, providing choice in moderation usually seems to be a safe bet for pleasing others (cf. Deci & Ryan, 2000, 2012; Deci, Spiegel, Ryan, Koestner, & Kaufman, 1982; Iyengar & DeVoe, 2003).

### Concluding Remarks

Our venture into social mindfulness has proved fruitful. While introducing and validating a new paradigm, we were able to extend existing conceptualizations from game and interdependence theory, which center on outcomes. Specifically, we provide evidence that a mindful focus on the needs and interests of others may lead

to a specific kind of behavior, that instead of locking down a situation, aims to leave others control over their own choices. Social mindfulness thus seeks to maximize other people's outcome control and is intimately related to a prosocial value orientation. It combines the mindfulness-as-enhanced-awareness that opens up the by-now almost traditional road to personal well-being with other-regarding actions that arise from other-regarding motives; personal well-being gets tied in with mutual well-being. Indeed, social mindfulness is inherently prosocial. In the end, it may well be one of the primary tools that people have developed in the broader prosocial package that helps them navigate the social world. Further explorations of this novel concept will contribute to our knowledge of how people balance the needs of self and other in their daily environment. Much of human behavior is intrinsically social, but past theorizing and research has tended to focus on either the skill or the will to behave in a prosocial manner or not. Our integrative thesis, however, implies that for prosocial navigation to be truly effective, social mindfulness is crucial, which means applying both skill and will.

## References

- Allen, J. G. (2006). Mentalization in practice. In J. G. Allen & P. Fonagy (Eds.), *Handbook of mentalization-based treatment* (pp. 1–30). Chichester, England: Wiley. doi:10.1002/9780470712986.ch1
- Allen, J. G., Fonagy, P., & Bateman, A. (2008). *Mentalizing in clinical practice*. Arlington, VA: American Psychiatric Publishing.
- Amodio, D. M., & Frith, C. D. (2006). Meeting of minds: The medial frontal cortex and social cognition. *Nature Reviews Neuroscience*, 7, 268–277. doi:10.1038/nrn1884
- Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of Other in the Self scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology*, 63, 596–612. doi:10.1037/0022-3514.63.4.596
- Ashton, M., & Lee, K. (2007). Empirical, theoretical, and practical advantages of the HEXACO model of personality structure. *Personality and Social Psychology Review*, 11, 150–166. doi:10.1177/1088868306294907
- Ashton, M., & Lee, K. (2008). The prediction of Honesty–Humility-related criteria by the HEXACO and Five-Factor Models of personality. *Journal of Research in Personality*, 42, 1216–1228. doi:10.1016/j.jrp.2008.03.006
- Ashton, M., & Lee, K. (2010). Trait and source factors in HEXACO-PI-R self- and observer reports. *European Journal of Personality*, 24, 278–289. doi:10.1002/per.759
- Ashton, M. C., Lee, K., Perugini, M., Szarota, P., De Vries, R. E., Di Blas, L., . . . De Raad, B. (2004). A six-factor structure of personality-descriptive adjectives: Solutions from psycholexical studies in seven languages. *Journal of Personality and Social Psychology*, 86, 356–366. doi:10.1037/0022-3514.86.2.356
- Balliet, D., Parks, C. D., & Joireman, J. (2009). Social value orientation and cooperation in social dilemmas: A meta-analysis. *Group Processes and Intergroup Relations*, 12, 533–547. doi:10.1177/1368430209105040
- Baron-Cohen, S., Tager-Flusberg, H., & Cohen, D. (1993). *Understanding other minds: Perspectives from autism*. New York, NY: Oxford University Press.
- Baron-Cohen, S., Wheelwright, S., Hill, J., Raste, Y., & Plumb, I. (2001). The “Reading the Mind in the Eyes” Test revised version: A study with normal adults, and adults with Asperger syndrome or high-functioning autism. *Journal of Child Psychiatry and Psychology*, 42, 241–252. doi:10.1111/1469-7610.00715
- Batson, C. D., Early, S., & Salvarani, G. (1997). Perspective taking: Imagining how another feels versus imagining how you would feel. *Personality and Social Psychology Bulletin*, 23, 751–758. doi:10.1177/0146167297237008
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117, 497–529. doi:10.1037/0033-2909.117.3.497
- Black, D. S. (2011). A brief definition of mindfulness. *Mindfulness Research Guide*. Retrieved from [http://www.mindfulexperience.org/resources/brief\\_definition.pdf](http://www.mindfulexperience.org/resources/brief_definition.pdf)
- Borkowski, J. G., & Burke, J. E. (1996). Theories, models, and measurements of executive functioning: An information processing perspective. In G. R. Lyon & N. A. Krasnegor (Eds.), *Attention, memory, and executive function* (pp. 235–261). Baltimore, MD: Brookes.
- Brewer, M. B. (1991). The social self: On being the same and different at the same time. *Personality and Social Psychology Bulletin*, 17, 475–482. doi:10.1177/0146167291175001
- Brewer, M. B. (2012). Optimal distinctiveness theory: Its history and development. In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology* (Vol. 2, pp. 81–98). Thousand Oaks, CA: Sage.
- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, 84, 822–848. doi:10.1037/0022-3514.84.4.822
- Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data? *Perspectives on Psychological Science*, 6, 3–5. doi:10.1177/1745691610393980
- Chiesa, A., & Serretti, A. (2011). Mindfulness based cognitive therapy for psychiatric disorders: A systematic review and meta-analysis. *Psychiatry Research*, 187, 441–453. doi:10.1016/j.psychres.2010.08.011
- Costa, P. T., & McCrae, R. R. (1992). *NEO Personality Inventory- Revised (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual*. Odessa, FL: Psychological Assessment Resources.
- Davis, M. (1980). A multidimensional approach to individual differences in empathy. *JSAS Catalog of Selected Documents in Psychology*, 10, 85.
- Davis, M. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, 44, 113–126. doi:10.1037/0022-3514.44.1.113
- Dawes, J. G. (2008). Do data characteristics change according to the number of scale points used? An experiment using 5-point, 7-point and 10-point scales. *International Journal of Market Research*, 51, 61–77. Retrieved from <http://search.proquest.com/docview/214808398?accountid=10978>
- Decety, J., & Batson, C. D. (2007). Social neuroscience approaches to interpersonal sensitivity. *Social Neuroscience*, 2, 151–157. doi:10.1080/17470910701506060
- Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11, 227–268. doi:10.1207/S15327965PLI1104\_01
- Deci, E. L., & Ryan, R. M. (2012). Self-determination theory. In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology* (Vol. 1, pp. 416–437). Thousand Oaks, CA: Sage.
- Deci, E. L., Spiegel, N. H., Ryan, R. M., Koestner, R., & Kaufman, M. (1982). Effects of performance standards on teaching styles: Behavior of controlling teachers. *Journal of Educational Psychology*, 74, 852–859. doi:10.1037/0022-0663.74.6.852
- De Cremer, D., & Van Lange, P. A. M. (2001). Why prosocials exhibit greater cooperation than prosocials: The roles of social responsibility and reciprocity. *European Journal of Personality*, 15, S5–S18. doi:10.1002/per.418
- Denckla, M. B. (1996). A theory and model of executive function: A

- neuropsychological perspective. In G. R. Lyon & N. A. Krasnegor (Eds.), *Attention, memory, and executive function* (pp. 263–278). Baltimore, MD: Brookes.
- De Vries, R. E., Ashton, M. C., & Lee, K. (2009). De zes belangrijkste persoonlijkheidsdimensies en de HEXACO Persoonlijkheidsvragenlijst [The six most important personality dimensions and the HEXACO Personality Inventory]. *Gedrag en Organisatie*, 22, 232–274.
- de Vries, R. E., Lee, K., & Ashton, M. C. (2008). The Dutch HEXACO Personality Inventory: Psychometric properties, self–other agreement, and relations with psychopathy among low and high acquaintanceship dyads. *Journal of Personality Assessment*, 90, 142–151. doi:10.1080/00223890701845195
- Eek, D., & Garling, T. (2006). Prosocials prefer equal outcomes to maximizing joint outcomes. *British Journal of Social Psychology*, 45, 321–337. doi:10.1348/014466605X52290
- Fehr, E., Naef, M., & Schmidt, K. M. (2005). Inequality aversion, efficiency, and maximin preferences in simple distribution experiments: Comment. *The American Economic Review*, 96, 1912–1917. Retrieved from <http://www.jstor.org/stable/30035004>
- Gergen, K. J. (2009). *Relational being: Beyond self and community*. Oxford, England: Oxford University Press.
- Goldberg, L. R. (1990). An alternative “description of personality”. *Journal of Personality and Social Psychology*, 59, 1216–1229. doi:10.1037/0022-3514.59.6.1216
- Greenson, J. M. (2009). Mindfulness research update: 2008. *Complementary Health Practice Review*, 14, 10–18. doi:10.1177/1533210108329862
- Haruno, M., & Frith, C. D. (2010). Activity in the amygdala elicited by unfair divisions predicts social value orientation. *Nature Neuroscience*, 13, 160–161. doi:10.1038/nn.2468
- Hashimoto, H., Li, Y., & Yamagishi, T. (2011). Beliefs and preferences in cultural agents and cultural game players. *Asian Journal of Social Psychology*, 14, 140–147. doi:10.1111/j.1467-839X.2010.01337.x
- Higgins, E. T. (1998). Promotion and prevention: Regulatory focus as a motivational principle. *Advances in Experimental Social Psychology*, 30, 1–46. doi:10.1016/S0065-2601(08)60381-0
- Hofmann, S. G., Sawyer, A. T., Witt, A. A., & Oh, D. (2010). The effect of mindfulness-based therapy on anxiety and depression: A meta-analytic review. *Journal of Consulting and Clinical Psychology*, 78, 169–183. doi:10.1037/a0018555
- Iyengar, S. S., & DeVoe, S. E. (2003). Rethinking the value of choice: Considering mediators of intrinsic motivation. In V. Murphy-Berman & J. Berman (Eds.), *Cross-cultural differences in perspectives on the self* (pp. 129–179). Lincoln: University of Nebraska Press.
- Johnson, D. W. (1975a). Affective perspective taking and cooperative predisposition. *Developmental Psychology*, 11, 869–870. doi:10.1037/0012-1649.11.6.869
- Johnson, D. W. (1975b). Cooperativeness and social perspective taking. *Journal of Personality and Social Psychology*, 31, 241–244. doi:10.1037/h0076285
- Johnson, J. W. (2000). A heuristic method for estimating the relative weight of predictor variables in multiple regression. *Multivariate Behavioral Research*, 35, 1–19. doi:10.1207/S15327906MBR3501\_1
- Kelley, H. H. (1984). The theoretical description of interdependence by means of transition lists. *Journal of Personality and Social Psychology*, 47, 956–982. doi:10.1037/0022-3514.47.5.956
- Kelley, H. H., Holmes, J. G., Kerr, L. K., Reis, H. T., Rusbult, C. E., & Van Lange, P. A. M. (2003). *An atlas of interpersonal situations*. New York, NY: Cambridge University Press.
- Kelley, H. H., & Thibaut, J. W. (1978). *Interpersonal relations*. New York, NY: Wiley.
- Kim, H., & Markus, H. R. (1999). Deviance or uniqueness, harmony or conformity? A cultural analysis. *Journal of Personality and Social Psychology*, 77, 785–800. doi:10.1037/0022-3514.77.4.785
- Klapwijk, A., & Van Lange, P. A. M. (2009). Promoting cooperation and trust in “noisy” situations: The power of generosity. *Journal of Personality and Social Psychology*, 96, 83–103. doi:10.1037/a0012823
- Köpetz, C. E., Lejuez, C. W., Wiers, R. W., & Kruglanski, A. W. (2013). Motivation and self-regulation in addiction: A call for convergence. *Perspectives on Psychological Science*, 8, 3–24. doi:10.1177/1745691612457575
- Kuhlman, D. M., Camac, C., & Cunha, D. A. (1986). Individual differences in social orientation. In H. Wilke, D. Messick, & C. Rutte (Eds.), *Experimental social dilemmas* (pp. 151–176). New York, NY: Verlag Peter Lang.
- Langer, E. J. (1989). *Mindfulness*. Cambridge, MA: Da Capo.
- Langer, E. J. (1992). Matters of mind: Mindfulness/mindlessness in perspective. *Consciousness and Cognition*, 1, 289–305. doi:10.1016/1053-8100(92)90066-J
- Langer, E. J., Blank, A., & Chanowitz, B. (1978). The mindlessness of ostensibly thoughtful action: The role of placebo information in interpersonal interaction. *Journal of Personality and Social Psychology*, 36, 635–642. doi:10.1037/0022-3514.36.6.635
- Leary, M. R., Kelly, K. M., Cottrell, C. A., & Schreindorfer, L. S. (2007). *Individual differences in the need to belong: Mapping the nomological network*. Unpublished manuscript, Duke University.
- Lee, K., & Ashton, M. C. (2008). The HEXACO personality factors in the indigenous personality lexicons of English and 11 other languages. *Journal of Personality*, 76, 1001–1054. doi:10.1111/j.1467-6494.2008.00512.x
- Lockwood, P., Jordan, C. H., & Kunda, Z. (2002). Motivation by positive or negative role models: Regulatory focus determines who will best inspire us. *Journal of Personality and Social Psychology*, 83, 854–864. doi:10.1037/0022-3514.83.4.854
- Lundqvist, D., Flykt, A., & Ohman, A. (1998). *Karolinska Directed Emotional Faces* [Database of standardized facial images]. Psychology Section, Department of Clinical Neuroscience, Karolinska Hospital, S-171 76 Stockholm, Sweden. Retrieved from <http://webscript.princeton.edu/~tlab/databases/database-2-karolinska-dataset/>
- Magee, J. C., & Langner, C. A. (2008). How personalized and socialized power motivation facilitate antisocial and prosocial decision-making. *Journal of Research in Personality*, 42, 1547–1559. doi:10.1016/j.jrp.2008.07.009
- Mason, W., & Suri, S. (2012). Conducting behavioral research on Amazon’s Mechanical Turk. *Behavioral Research Methods*, 44, 1–23. doi:10.3758/s13428-011-0124-6
- Messick, D. M., & McClintock, C. G. (1968). Motivational bases of choice in experimental games. *Journal of Experimental Social Psychology*, 4, 1–25. doi:10.1016/0022-1031(68)90046-2
- Messick, D. M., & Sentis, K. P. (1985). Estimating social and nonsocial utility functions from ordinal data. *European Journal of Social Psychology*, 15, 389–399. doi:10.1002/ejsp.2420150403
- Murphy, R. O., Ackermann, K. A., & Handgraaf, M. J. J. (2011). Measuring social value orientation. *Judgment and Decision Making*, 6, 771–781. doi:10.2139/ssrn.1804189
- Oosterhof, N. N., & Todorov, A. (2008). The functional basis of face evaluation. *Proceedings of the National Academy of Sciences of the USA*, 105, 11087–11092. doi:10.1073/pnas.0805664105
- Oswald, P. A. (1996). The effects of cognitive and affective perspective taking on empathic concern and altruistic helping. *The Journal of Social Psychology*, 136, 613–623. doi:10.1080/00224545.1996.9714045
- Payne, B. K. (2005). Conceptualizing control in social cognition: How executive function modulates the expression of automatic stereotyping. *Journal of Personality and Social Psychology*, 89, 488–503. doi:10.1037/0022-3514.89.4.488
- Pronk, T. M., Karremans, J. C., Overbeek, G., Vermulst, A. A., & Wigboldus, D. H. J. (2010). What it takes to forgive: When and why

- executive functioning facilitates forgiveness. *Journal of Personality and Social Psychology*, 98, 119–131. doi:10.1037/a0017875
- Ruby, P., & Decety, J. (2004). How would you feel versus how do you think she would feel? A neuroimaging study of perspective-taking with social emotions. *Journal of Cognitive Neuroscience*, 16, 988–999. doi:10.1162/0898929041502661
- Rule, N. O., Krendl, A. C., Ivcevic, Z., & Ambady, N. (2013). Accuracy and consensus in judgments of trustworthiness from faces: Behavioral and neural correlates. *Journal of Personality and Social Psychology*, 104, 409–426. doi:10.1037/a0031050
- Smith, E. E., & Jonides, J. (1999, March 12). Storage and executive processes in the frontal lobes. *Science*, 283, 1657–1661. doi:10.1126/science.283.5408.1657
- Stouten, J., De Cremer, D., & van Dijk, E. (2005). All is well that ends well, at least for proselves: Emotional reactions to equality violation as a function of social value orientation. *European Journal of Social Psychology*, 35, 767–783. doi:10.1002/ejsp.276
- Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality*, 72, 271–324. doi:10.1111/j.0022-3506.2004.00263.x
- Thibaut, J. W., & Walker, L. (1975). *Procedural justice: A psychological analysis*. Hillsdale, NJ: Erlbaum.
- Todorov, A., Said, C. P., Engell, A. D., & Oosterhof, N. N. (2008). Understanding evaluation of faces on social dimensions. *Trends in Cognitive Sciences*, 12, 455–460. doi:10.1016/j.tics.2008.10.001
- Tyler, T. R., & DeGoey, P. (1995). Collective restraint in social dilemmas: Procedural justice and social identification effects on support for authorities. *Journal of Personality and Social Psychology*, 69, 482–497. doi:10.1037/0022-3514.69.3.482
- Vaish, A., Carpenter, M., & Tomasello, M. (2009). Sympathy through affective perspective taking and its relation to prosocial behavior in toddlers. *Developmental Psychology*, 45, 534–543. doi:10.1037/a0014322
- Van Doesum, N. J. (2011). *The nearness of you: Preliminary studies in social mindfulness*. Unpublished master's thesis, VU University Amsterdam, the Netherlands.
- Van Kleef, G., & Van Lange, P. A. M. (2008). What other's disappointment may do to selfish people: Emotion and social value orientation in a negotiation context. *Personality and Social Psychology Bulletin*, 34, 1084–1095. doi:10.1177/0146167208318402
- Van Lange, P. A. M. (1999). The pursuit of joint outcomes and equalities in outcomes: An integrative model of social value orientation. *Journal of Personality and Social Psychology*, 77, 337–349. doi:10.1037/0022-3514.77.2.337
- Van Lange, P. A. M., Otten, W., De Bruin, E. M. N., & Joireman, J. A. (1997). Development of prosocial, individualistic, and competitive orientations: Theory and preliminary evidence. *Journal of Personality and Social Psychology*, 73, 733–746. doi:10.1037/0022-3514.73.6.1330
- Van Lange, P. A. M., & Rusbult, C. E. (2012). Interdependence theory. In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology* (Vol. 2, pp. 251–272). Thousand Oaks, CA: Sage. doi:10.4135/9781446249222.n39
- Van Lange, P. A. M., Schippers, M., & Balliet, D. (2011). Who volunteers in psychology experiments? An empirical review of prosocial motivation in volunteering. *Personality and Individual Differences*, 51, 279–284. doi:10.1016/j.paid.2010.05.038
- Van Lange, P. A. M., & Van Doesum, N. J. (2012). The psychology of interaction goals comes as a package. *Psychological Inquiry*, 23, 75–79. doi:10.1080/1047840X.2012.657566
- Van Lange, P. A. M., Van Doesum, N. J., Vuolevi, J. H. K., & Finkenauer, C. (2013). *Social mindfulness: To limit or leave options for others*. Manuscript in preparation.
- Wimmer, H., & Perner, J. (1983). Beliefs about beliefs: Representation and constraining function of wrong beliefs in young children's understanding of deception. *Cognition*, 13, 103–128. doi:10.1016/0010-0277(83)90004-5
- Yamagishi, T., Hashimoto, H., Cook, K. S., Kiyonari, T., Shinada, M., Mifune, N., . . . Li, Y. (2012). Modesty in self-presentation: A comparison between the USA and Japan. *Asian Journal of Social Psychology*, 15, 60–68. doi:10.1111/j.1467-839X.2011.01362.x
- Yamagishi, T., Hashimoto, H., & Schug, J. (2008). Preferences versus strategies as explanations for culture-specific behavior. *Psychological Science*, 19, 579–584. doi:10.1111/j.1467-9280.2008.02126.x

Received January 24, 2013

Revision received March 5, 2013

Accepted March 5, 2013 ■