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Social mindfulness: Prosocial the active way

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ABSTRACT

Prosociality is a central topic in positive psychology. An important but under-studied distinction can be made between active and reactive expressions. We suggest that the novel construct of social mindfulness represents active rather than reactive prosociality. Across four studies ($N = 2,594$), including a multi-wave representative sample spanning six years, social mindfulness is found to correlate with personality traits associated with prosocial and/or antisocial behavior. We find positive associations with empathy, social value orientation, and general prosocial behavior, and negative associations with moral disengagement and narcissism. Importantly, social mindfulness emerges as an active rather than a reactive characteristic that is more strongly related to HEXACO honesty-humility (active cooperation) than to HEXACO agreeableness (reactive cooperation). The association between social mindfulness and honesty-humility was found across measures six years apart. Given the well-established link between prosociality and well-being, emphasizing social mindfulness may be a good start to promote the latter.

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Acting prosocially leads individuals to experience greater self-esteem and meaning in life (Klein, 2017), and prosocial spending has myriad emotional benefits (Aknin et al., 2013). Prosociality also seems to be a positive double-edged sword with both actor and receiver profiting. For example, generously abdicating choice to others reaps reciprocated generosity (Kardas, Shaw, & Caruso, 2018), and perceived prosocial decisions promote cooperative behavior (Dou, Wang, Li, Li, & Nie, 2018). This illustrates how prosociality covers a broad domain; it can involve charitable giving, unsolicited helping, or forgoing a reward for somebody else, to mention only a few examples. To get a better grip on the many possible prosocial behaviors, two specific domains are distinguished in this paper: Active and reactive prosociality. Despite the relevance of prosocial behavior to positive psychology, this distinction has not received much attention yet. But, as we outline below, the two domains might represent distinct routes to positive social interaction experiences, which are often assumed to be key to trust, feelings of security, and individual health.

Active prosociality involves anticipating the needs of others by proactively shaping situations with the intent to benefit others, whereas reactive prosociality involves responding to the opportunities that arise. Such an active approach resonates particularly well with the recently introduced construct of *social mindfulness*, or seeing and considering the needs and wishes of others before making a decision (Van Lange & Van Doesum, 2015).¹ Emphasizing social mindfulness may thus contribute to promoting prosociality and individual well-being.

Initial research on social mindfulness (Van Doesum, Van Lange, & Van Lange, 2013) showed positive associations with empathy (Davis, 1983) – especially regarding empathic concern and perspective taking – and the prosocial HEXACO personality traits of honesty-humility and agreeableness (e.g. Ashton & Lee, 2007; Ashton, Lee, & De Vries, 2014; Lee & Ashton, 2008). Social mindfulness was also related to prosocial rather than individualistic or competitive value orientations (e.g. Van Lange, Otten, De Bruin, & Joireman, 1997), supported by neurological patterns that are consistent with mentalizing and perspective taking (Lemmers-Jansen et al.,

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2018). Here we seek further convergent and discriminant validation of social mindfulness as an expression of prosociality in associations with established prosocial and anti-social personality traits, and provide new information on how to interpret the construct. Most importantly, we examine and define social mindfulness in terms of active and reactive prosociality.

Social mindfulness and cooperation

Based on the premise that experiencing a certain degree of choice is generally appreciated (e.g. Aoki et al., 2014; Bobadilla-Suarez, Sunstein, & Sharot, 2017; Bown, Read, & Summers, 2003; Leotti & Delgado, 2011), the experimental paradigm to measure social mindfulness (henceforth the SoMi paradigm) hinges on leaving or limiting choice to others. In a dyadic task, a first mover chooses from a set of three or four products, with the information that another person will choose second. One of the products is unique in a single aspect. For example, two identical pens are shown next to one that slightly differs (Figure 1). If the first mover takes the unique product, this is scored as socially unmindful, because this leaves the other with no real choice. Taking one of the identical products is scored as socially mindful, because the other will still have a meaningful choice (Van Lange & Van Doesum, 2015). Products, examples, and more information are provided on www.socialmindfulness.nl.

Importantly, the material outcome (i.e. who gets what) is not the key aspect of the paradigm. Rather, SoMi targets the interpersonal outcome of the situation (i.e. the relationship). Because first movers determine the outcome options for the other, the cooperative decision in the SoMi paradigm communicates that the situation itself is actively defined in terms of interpersonal relationships. The fact that participants have to look at least one step ahead to create a more optimal situation for the other makes being socially mindful an active endeavor. Conceptually, this establishes the mindful decision as an active choice to be prosocial.

Literature suggests that prosocial tendencies can be recognized in acts of cooperation. Linked but not equivalent, people can cooperate actively, for example by being fair to others despite having clear options to exploit, or reactively, for example by being forgiving and tolerant toward other's transgressive and/or exploitative behavior (Ashton & Lee, 2007; Hilbig, Zettler, Leist, & Heydasch, 2013). Can social mindfulness be understood in similar terms? This question can be answered by examining how social mindfulness relates to two relevant HEXACO personality factors. Within the six-factor HEXACO Personality Inventory, active



Figure 1. Example of an experimental trial in the SoMi paradigm.

prosociality has been found to be associated with honesty-humility (predicting dictator games), and reactive prosociality with agreeableness (predicting ultimatum games) (e.g. Ashton & Lee, 2007; Ashton et al., 2014; Hilbig, Heydasch, & Zettler, 2014; Hilbig et al., 2013; Thielmann, Hilbig, & Niedtfield, 2014; Zhao & Smillie, 2015). If social mindfulness is indeed more active than reactive, it should be more strongly associated with HEXACO honesty-humility than with HEXACO agreeableness. Some preliminary findings support this pattern (e.g. Mischkowski, Thielmann, & Glöckner, 2018; Van Doesum et al., 2013, Study 4); here we seek confirmation and extension.

Further, we test how social mindfulness relates to the 'Dark Triad' personality traits narcissism, Machiavellianism, and psychopathy (Muris, Merckelbach, Otgaar, & Meijer, 2017; Paulhus & Williams, 2002). The high levels of overlap between these measures and low honesty-humility (e.g. Lee & Ashton, 2014; Lee et al., 2013) should provide convergent evidence for social mindfulness as active prosociality. Combined with tests of how social mindfulness

relates to traditional prosocial personality traits like Big Five agreeableness (e.g. Costa & McCrae, 1992), empathy, and morality judgments (moral disengagement; e.g. Bandura, 1999), this should allow us to better define social mindfulness within a broader package of inclinations and beliefs regarding others' behavior, construal processes, judgments of situations, affect and emotion, and/or neurological processes that together lead people in their decision to act prosocially or not (Van Lange & Van Doesum, 2012).

Research overview and hypotheses

Across four studies, we test whether social mindfulness is more active than reactive. Study 1 uses data from the 'Transitions in Amsterdam' (TransAM) project, a multi-wave study that covers a sample of Dutch emerging adults (i.e. adolescents and young adults), conducted by the Netherlands Institute for the Study of Crime and Law Enforcement (see Blokland, 2014; Hill, Blokland, & van der Geest, 2016; Hill, Lalji, van Rossum, van der Geest, & Blokland, 2015). To test whether social mindfulness relates to general prosociality, we examine how social mindfulness relates to a Big Five assessment of personality (specifically agreeableness) as well as to measures of moral disengagement, empathy, general prosocial behavior (i.e. helping), and social value orientation. Study 2 uses an online sample to examine the relation between social mindfulness and the Dark Triad (narcissism, Machiavellianism, and psychopathy). The next two studies investigate social mindfulness as active prosociality by focusing on its (discriminant) relations with HEXACO honesty-humility and HEXACO agreeableness. In Study 3 we reanalyze data from two studies reported by Van Doesum, Tybur, and Van Lange (2017). And finally, Study 4 is based on a large representative sample in the Netherlands, for which data were collected in five consecutive waves between 2008–2014. HEXACO personality assessment and social mindfulness occurred six years apart (first and last wave), which lets us examine the strength and pattern of these associations over time.

Across studies, we predict that social mindfulness is positively related with extant measures of prosociality and other-orientation (Hypothesis 1), is negatively related with antisocial personality traits such as the Dark Triad and moral disengagement (Hypothesis 2), and reflects active rather than reactive cooperation as shown in stronger relations with honesty-humility than with agreeableness in the HEXACO model (Hypothesis 3). All studies were reviewed and approved by the

respective universities' Ethics Committees. Full correlation matrices are provided in the Supplemental Materials (Tables S1-S4).

Study 1

In Study 1, we test Hypothesis 1 by examining relationships between social mindfulness and prosociality assessments like empathy, social value orientation, personality (Big Five), helping behavior, and moral disengagement. Using a large sample, we expected direct replication of initial findings regarding empathy and social value orientation (Van Doesum et al., 2013), positive relations with Big Five agreeableness and general prosocial tendencies, and a negative relation with moral disengagement.

Method

Participants and design

Study 1 was based on the questionnaire scores of 687 individuals (402 women) between 19 and 24 years old, $M_{\text{age}} = 21.14$ ($SD = 1.36$) in the multi-wave TransAM project (see Blokland, 2014; Hill et al., 2016, 2015). The main focus of the TransAM project was delinquent behavior during emerging adulthood in Amsterdam, and included a multitude of psychological measures, as well as details on the changing life circumstances of participants and their delinquent behavior. Here we only report on measures that pertained to our primary hypotheses.

Procedure and measures

Participants were interviewed at their home address or at the local university. Social mindfulness was assessed by means of the SoMi paradigm (Van Doesum et al., 2013): In a hypothetical dyadic allocation task played together with an unknown other 'who you don't know and are not likely to meet in the near future,' participants were asked to choose first from a set of three products in ten consecutive trials. All products were identical, except for one that was unique in one aspect (e.g. one blue and two black pens). If the participant decided to take the unique item in one of these trials (e.g. the one blue pen), this was labeled as *socially unmindful*: The other has no real choice anymore, scored as 0. On the other hand, the decision to take one of the identical products was labeled as *socially mindful*, because the other still has a real choice. This was scored as 1. We computed the final score as the proportion of socially mindful choices across all experimental trials.

Personality was measured using the Big Five Inventory (BFI), divided over the factors openness to experience ($\alpha = .79$), conscientiousness ($\alpha = .74$), extraversion ($\alpha = .82$), agreeableness ($\alpha = .67$), and neuroticism ($\alpha = .81$), answered on a 5-point scale from 1 = *strongly disagree* to 5 = *strongly agree* (Denissen, Geenen, Van Aken, Gosling, & Potter, 2008).² The four domains of empathy – perspective taking ($\alpha = .69$), empathic concern ($\alpha = .70$), fantasy scale ($\alpha = .79$), and personal distress ($\alpha = .74$) – were measured using the 28 items of the Interpersonal Reactivity Index (Davis, 1983), answered on a 5-point scale from 1 = *not at all true of myself* to 5 = *true of myself*. As a measure of general prosociality, helping behavior was assessed with a Dutch version of the Pro-Social Behavior Scale (11 items, e.g. 'I am willing to lend others money if they truly need it,' 7-point scale from 1 = *never true* to 7 = *definitely true*, $\alpha = .80$; Morales, 1999).

Social value orientation was assessed using the Triple Dominance Measure (Van Lange et al., 1997). Based on preferred money allocations across nine decomposed games, participants were categorized as prosocial (i.e. striving for equality in outcomes), individualist (i.e. striving for maximum personal gain) or competitor (i.e. striving for maximum relative gain). One hundred and sixteen participants were unclassifiable due to inconsistent decisions or missing data; these were not included in analyses involving social value orientation. In total, 420 participants were categorized as prosocial, 118 as individualist, and 33 as competitor. Additionally, we measured moral disengagement (14 items, e.g. 'It is alright to beat someone who bad mouths your family,' scored on a 5-point scale from 1 = *strongly disagree* to 5 = *strongly agree*, $\alpha = .89$; Bandura, Barbaranelli, Caprara, & Pastorelli, 1996).

Results and discussion

For an overview of correlations with social mindfulness, see Table 1. We found no age ($p = .343$) or gender effects ($p = .528$) on social mindfulness. Social mindfulness was significantly, but not strongly, associated with Big Five agreeableness ($r = .08$, $p = .038$) and openness to experience ($r = .09$, $p = .026$), and the empathy domains of perspective taking ($r = .11$, $p = .005$) and empathic concern ($r = .08$, $p = .040$). We also found the expected correlations with prosocial behavior ($r = .09$, $p = .023$), and moral disengagement ($r = -.14$, $p < .001$). Replicating previous findings (Van Doesum et al., 2013), social mindfulness varied across social value orientations, $F(2, 568) = 15.61$, $p < .001$, $\eta^2 = .05$; prosocials ($M_{\text{prosocial}} = .62$, $SD = .21$) scored

Table 1. Bivariate Correlations with Social Mindfulness in Study 1 ($N = 687$)

	α	r	p
Big Five Personality			
Openness to Experience	.79	.09	.026
Conscientiousness	.74	-.01	.855
Extraversion	.82	.03	.401
Agreeableness	.67	.08	.038
Neuroticism	.81	.03	.368
Empathy			
Perspective Taking	.69	.11	.005
Empathic Concern	.70	.08	.040
Fantasy Scale	.79	.03	.400
Personal Distress	.74	.00	.934
Moral Disengagement Scale	.89	-.14	< .001
Prosocial Behavior Scale	.80	.09	.023

higher on social mindfulness than individualists ($M_{\text{individualist}} = .56$, $SD = .19$) and/or competitors ($M_{\text{competitor}} = .43$, $SD = .16$). All differences were significant at $p < .01$.

The combined associations in Study 1 provide support for Hypothesis 1: Social mindfulness was positively correlated with Big Five agreeableness, as well as with empathy, an assessment of general prosocial behavior, and prosocial value orientations. Extending previous findings, higher levels of moral disengagement were related with lower levels of social mindfulness, suggesting that some people may choose to actively disengage from being socially mindful (Hypothesis 2).

Study 2

After observing positive relations between social mindfulness and variables traditionally interpreted as reflecting prosocial tendencies, we examined social mindfulness and its associations with the Dark Triad measures of personality. Using data from a larger dataset, here we only report on measures specifically pertaining to our hypotheses. We expected all Dark Triad variables to negatively correlate with social mindfulness.

Method

Participants

Participants were recruited on Amazon's Mechanical Turk service (MTurk). Despite the current discussion on possible fraudulent responses using VPSs on this platform (e.g. Kennedy, Clifford, Burleigh, Waggoner, & Jewell, 2018), a recent study confirms that, although with some limitations, MTurk workers generally provide high-quality data (McCredie & Morey, 2018; see also Berinsky, Huber, & Lenz, 2012; Hauser & Schwarz, 2015). Of the 354 people who opened the link, 306 provided complete responses. Checking the data, we

identified some potential multiple responses that we excluded from analyses to be conservative.³ The final sample thus consisted of 277 participants, of which 119 were male. Age was assessed by range: Three participants reported ages under 20, 99 reported ages from 20–29, 90 from 30–39, 44 from 40–49, 25 from 50–59, 11 from 60–69, and five from 70–80.

Procedure

Similar to Study 1, social mindfulness was assessed using the SoMi paradigm. In this study, the task was expanded by offering 12 experimental trials in which participants were asked to choose from a set of either three or four products, in which one was unique (thus, ratios of 1:2 or 1:3). We also added 12 control trials in which the participant's decision had no social consequences (e.g. they could choose one among two blue and two yellow baseball hats). These were included to make the goal of the task less obvious and were not used in computing the social mindfulness score. All trials were offered in randomized order.

Psychopathy was measured with 26 items, scored on a 5-point scale from 1 = *strongly disagree* to 5 = *strongly agree*, e.g. 'My main purpose in life is getting as many goodies as I can'; $\alpha = .91$ (Levenson, Kiehl, & Fitzpatrick, 1995). Narcissism was measured by means of 40 paired items, e.g. 'I have a natural talent for influencing people/I am no good at influencing people,' $\alpha = .90$ (Raskin & Hall, 1979), and Machiavellianism with 20 items, e.g. 'The best way to handle people is to tell them what they want to hear,' answered on a 7-point scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*, $\alpha = .83$ (Christie & Geis, 1970).

Results and discussion

Associations were all in the expected direction, but only the correlation with narcissism was statistically significant, $r = -.23$, $p < .001$; psychopathy $r = -.08$, $p = .173$, Machiavellianism $r = -.02$, $p = .762$. Overall, this provides reasonable support for Hypothesis 2. When regressing social mindfulness on the Dark Triad factors, narcissism predicted social mindfulness, $\beta = -.23$, $t = -3.56$, $p < .001$, whereas psychopathy, $\beta = -.02$, $t = -0.24$, $p = .810$, and Machiavellianism, $\beta = .05$, $t = 0.58$, $p = .562$, did not. Especially the non-association with Machiavellianism suggests that the SoMi paradigm may not so much provide an opportunity to exploit others ('What is there to gain?') but rather an opportunity to establish or forego prevalence over others ('How good am I?'), captured by the strong role of narcissism in a secondary regression analysis.

Study 3

Studies 1 and 2 provided support for social mindfulness as an overall assessment of prosociality, but did not distinguish between active and reactive tendencies. For this we turned to the six-factor HEXACO model of personality. As noted earlier, honesty-humility denotes active, and agreeableness reactive cooperativeness (Hilbig et al., 2013). Two datasets in recent studies included these two measures in conjunction with an assessment of social mindfulness (Van Doesum et al., 2017, Studies 1 and 2). But beyond the scope of its hypotheses, that paper did not report the relations between social mindfulness and HEXACO measures; we reanalyzed these data for the current research. Because design, protocol, measures of interest, and online test environment were identical across the two original studies (n 's = 226 and 300), we merged these data into one sample ($N = 526$) to more accurately answer the current research question. Focusing on social mindfulness as active prosociality, we expected to find stronger relations with HEXACO honesty-humility than with HEXACO agreeableness. Beyond examining these broader personality factors, we also looked if additional information could be gained from more narrow facets. For further validation and replication purposes we additionally included a measure of social value orientation.

Method

Participants

Participants were recruited on Amazon's MTurk. Data were collected in 2013/2014, well before the recent upsurge of concerns about the reliability of this platform for psychological research (see above). When checking the data, we did not find overlapping answers or multiple responses from one source. The merged sample comprised 526 participants (288 female) from 18–78 years old, $M_{\text{age}} = 37.03$ ($SD = 13.07$). Reported mean income was between \$45,000–49,999 (median \$40,000–44,999). Regarding education, 41% said to hold a bachelor's degree, 12% a master's degree or higher, 12% reported a technical degree, and 13% had at least followed some post-secondary school. Two hundred nineteen participants reported to be married, 277 were living with a romantic partner.

Measures

Social mindfulness was assessed identically to Study 2. Honesty-humility ($\alpha = .87$), agreeableness ($\alpha = .90$), their corresponding facets (see Table 2), and the interstitial facet altruism ($\alpha = .71$) were assessed using the

Table 2. Correlations and relative weight analysis (HEXACO facets only) for social mindfulness in study 3 (N = 526).

	α	r	p	rw
SvoSlider	–	.27	<.001	
Honesty-humility	.87	.23	<.001	
Sincerity	.77	.15	.001	10.6%
Fairness	.84	.16	<.001	13.3%
Greed avoidance	.79	.18	<.001	13.7%
Modesty	.76	.22	<.001	36.6%
Agreeableness	.90	.13	.003	
Forgiveness	.81	.09	.049	2.0%
Gentleness	.79	.09	.052	2.5%
Flexibility	.66	.15	<.001	16.5%
Patience	.74	.11	.012	4.8%
Altruism	.71	.21	<.001	

Note. Personality factors and facets are based on the HEXACO-PI-R-100 (Lee & Ashton, 2016); rw = relative weight (Johnson, 2000). SvoSlider = social value orientation. – = n/a.

HEXACO-PI-R-100 (Lee & Ashton, 2016), scored on a 5-point scale from 1 = *strongly disagree* to 5 = *strongly agree*. To test the generalizability of SoMi across multiple methods, in Study 3 we measured social value orientation using the SvoSlider measure, providing a continuous SVO-angle (Murphy, Ackermann, & Handgraaf, 2011). Based on decisions in six consecutive items in which valuable points must be divided between self and an unknown other, participants were placed on a continuum that runs from competitive via individualistic and prosocial to altruistic orientations.

Results and discussion

For an overview of results, see Table 2. Replicating previous research (Van Doesum et al., 2013), social mindfulness was correlated with social value orientation, $r = .27$, $p < .001$, honesty-humility, $r = .23$, $p < .001$, agreeableness, $r = .13$, $p = .003$, and altruism, $r = .21$, $p < .001$; note the difference of .10 between honesty-humility and agreeableness. The correlation between the latter two variables was .40, $p < .001$. At facet level, modesty and greed avoidance (both facets of honesty-humility) were most strongly correlated with social mindfulness, $r = .22$ and .18, $ps < .001$, respectively. A relative weight analysis (Johnson, 2000) on the HEXACO facets predicting social mindfulness revealed that modesty contributed 36.6% to the total explained variance ($R^2 = .072$), greed avoidance 13.7%, fairness 13.3% (all honesty-humility), and flexibility 16.5% (agreeableness).

Comparing the correlation coefficients for honesty-humility and agreeableness within the sample (Lenhard & Lenhard, 2014), we found these to be statistically different, $Z = 2.14$, $p = .016$ (single sided testing). When subsequently regressing social mindfulness on honesty-humility and agreeableness together with age, gender, social value orientation, and a variable coding for original

study in Van Doesum et al. (2017) to account for possible differences between the merged studies (cf. Ashton & Lee, 2016), honesty-humility predicted social mindfulness, $\beta = .13$, $p = .013$, more strongly than agreeableness, which was unrelated, $\beta = .01$, $p = .832$.⁴ Together, these results suggest that social mindfulness is indeed more strongly associated with active than with reactive prosociality at the personality level (Hypothesis 3), specifically driven by modesty, greed avoidance, fairness, and the willingness to compromise (i.e. flexibility).

Study 4

In Study 4 we sought to replicate the findings of Study 3 on a different continent (Western Europe) within an even larger and representative sample, using data collected in five consecutive waves between 2008–2014. The main focus was again on the relation between social mindfulness and HEXACO personality. Following Study 3, we expected to find stronger effects for honesty-humility than for agreeableness. We again included a measure of social value orientation. An important feature of this study is the fact that the personality assessment was taken in the first wave (2008), and social mindfulness in the last (2014); this allowed us to examine if the hypothesized stronger relations with honesty-humility would be robust enough to span six years.

Method

Participants and design

The sample for this study was based on a representative sample with data collected across multiple waves on Flycatcher, a large Dutch survey panel. On repeated occasions, panel members were asked to respond to a multitude of questions and to complete many tasks, most of which were unrelated to our research question. Here we only report on specific measures pertaining to our hypotheses. In the fifth and final wave, we recorded the social mindfulness (SoMi) scores of 1098 participants (540 female) between 18 and 90 years old, $M_{\text{age}} = 50.51$ ($SD = 16.03$). Because measures were administered in different waves, sample size may differ per reported analysis (see Table 3). Note that HEXACO measures (Wave 1, 2008, see De Vries & van Kampen, 2010) and social mindfulness assessments were taken about six years apart (Wave 5, 2014).

Measures

Social mindfulness and social value orientation were measured as part of the same questionnaire (Wave 5, 2014). Social mindfulness was assessed in the same way as in Studies 2 and 3, the only difference being that

Table 3. Correlations and relative weight analysis (HEXACO facets only) for social mindfulness in study 4.

	<i>N</i>	α	<i>r</i>	<i>p</i>	<i>rw</i>
HEXACO					
Honesty-humility	621	.90	.12	.003	
Sincerity	621	.69	.03	.487	2.6%
Fairness	621	.81	.08	.057	5.2%
Greed Avoidance	621	.83	.15	<.001	26.6%
Modesty	621	.82	.11	.006	9.3%
Emotionality	621	.87	.03	.542	
Fearfulness	621	.74	-.03	.438	6.7%
Anxiety	621	.78	.04	.306	1.6%
Dependence	621	.80	.05	.191	3.9%
Sentimentality	621	.77	.01	.902	0.6%
Extraversion	621	.90	-.06	.135	
Social Self-esteem	621	.80	-.01	.795	1.6%
Social Boldness	621	.82	-.00	.932	4.0%
Sociability	621	.74	-.07	.106	6.2%
Liveliness	621	.85	-.10	.017	10.8%
Agreeableness	621	.88	-.03	.427	
Forgivingness	621	.86	-.04	.389	2.2%
Gentleness	621	.75	-.05	.228	6.5%
Flexibility	621	.64	.02	.594	2.1%
Patience	621	.75	-.03	.493	1.3%
Conscientiousness	621	.83	.00	.995	
Organization	621	.80	.02	.713	0.5%
Diligence	621	.72	-.05	.256	2.8%
Perfectionism	621	.73	.02	.594	1.0%
Prudence	621	.71	.01	.908	0.3%
Openness to experience	621	.87	-.03	.491	
Aesthetic Appreciation	621	.79	-.02	.630	2.0%
Inquisitiveness	621	.78	.00	.911	0.6%
Creativity	621	.72	-.05	.252	0.8%
Unconventionality	621	.70	-.02	.544	0.8%
Altruism	621	.73	.09	.033	
SvoSlider	1098	-	.14	<.001	

Note. Personality factors and facets are based on the HEXACO-PI-R-200 (De Vries et al., 2009); *rw* = relative weight (Johnson, 2000). SvoSlider = social value orientation. - = n/a.

trials were offered in quasi-randomized order (i.e. the order was randomized once, after which all participants saw the same order). Social value orientation was again measured using the SvoSlider measure (Murphy et al., 2011). Six years prior (Wave 1, 2008), participants had also completed the 200-item Dutch version of the HEXACO Personality Inventory (Revised) (De Vries, Ashton, & Lee, 2009; De Vries, Lee, & Ashton, 2008), which resulted in scores on the personality factors and facets of honesty-humility ($\alpha = .90$), emotionality ($\alpha = .87$), extraversion ($\alpha = .90$), agreeableness ($\alpha = .88$), conscientiousness ($\alpha = .83$), and openness to experience ($\alpha = .87$), together with an interstitial facet of altruism ($\alpha = .73$).

Results and discussion

An overview of bivariate correlations with social mindfulness is provided in Table 3. Social mindfulness was significantly correlated with the concurrently measured social value orientation, $r = .14$ ($p < .001$), and with honesty-humility as measured 6 years prior, $r = .12$

($p = .003$), but not with agreeableness (HEXACO), $r = -.03$ ($p = .427$). Honesty-humility and agreeableness were correlated at $.34$ ($p < .001$). A relative weight analysis (Johnson, 2000) on the HEXACO facets predicting social mindfulness revealed that in this sample, greed avoidance ($r = .15$, $p < .001$, $rw = 26.6%$) contributed most (total $R^2 = .064$), even more than modesty ($r = .11$, $p = .006$, $rw = 9.3%$). Unexpectedly, social mindfulness related to liveliness (extraversion), ($r = -.10$, $p = .017$, $rw = 10.8%$). In contrast with Study 3, social mindfulness was unrelated to flexibility ($r = .02$, $p = .594$, $rw = 2.1%$). Regressing social mindfulness on honesty-humility and agreeableness, while controlling for age, gender, and social value orientation (cf. Ashton & Lee, 2016), revealed that, as in Study 3, honesty-humility, $\beta = .14$ ($p = .002$), related to social mindfulness more strongly than agreeableness, $\beta = -.09$ ($p = .031$).⁵ This difference was confirmed when comparing the correlation coefficients within the sample, $Z = 3.26$, $p = .001$ (Lenhard & Lenhard, 2014).

Results of Study 4 generally confirmed our expectation that social mindfulness would be correlated with prosocial personality traits as assessed using social value orientation and HEXACO, but more strongly with honesty-humility than with agreeableness; importantly, this even held with a measurement gap of six years (Hypotheses 1 and 3). When controlling for honesty-humility, agreeableness was even slightly negatively associated with social mindfulness. This could indicate that the relation of social mindfulness with honesty-humility is not only stronger than with HEXACO agreeableness, but also perceivable across different points in time, providing additional support for social mindfulness as active prosociality.

General discussion

A consistent picture emerges from our collection of studies: Socially mindful decisions tend to be more active than reactive. Summarizing the main findings, social mindfulness was *positively* associated with social value orientation, honesty-humility and – to a lesser extent – HEXACO agreeableness, as well as with Big Five agreeableness, altruism, prosocial behavior, and empathy (especially empathic concern and perspective taking); similarly, it was *negatively* associated with moral disengagement and narcissism. The overarching sense of prosociality within these findings was specifically underscored by modesty, greed avoidance, and low narcissism. Largely confirming our hypotheses, these findings replicate and extend initial findings on social mindfulness (Van Doesum et al., 2013) and establish it as an active way of being prosocial.

Active prosociality

Conceptually, being socially mindful is holding others in mind *unsolicited*, thus by one's own initiative. It opens interpersonal negotiations by assigning others an a priori place of equality. Each operationalization of the concept so far has banked on this. For example, the SoMi paradigm measures prosociality in leaving or limiting choice to others – and this before these others can state their preferences. Even reciprocity concerns would reflect *anticipated* reciprocity – making the prosocial decision something of a social opening bid. If acting prosocially has benefits for self and others, as research has shown (e.g. Aknin et al., 2013; Klein, 2017), then an active approach like social mindfulness is helpful to establish cooperation without having to depend on the situation or the initiative of others.

Our data support this reasoning. Research has shown that HEXACO honesty-humility plays a vital role in active cooperation, whereas HEXACO agreeableness, on the other hand, is important in reactive cooperation (e.g. Zhao & Smillie, 2015). The pattern of correlations we found suggests that social mindfulness is more strongly and more consistently related to honesty-humility than to agreeableness in the HEXACO model. Given that active and reactive cooperation are related yet distinguishable concepts, both theory and method denote social mindfulness as active prosociality.

Because it incorporates the notion that one's relation to others is decisive in shaping decisions, HEXACO honesty-humility strongly accounts for prosocial behavior (Hilbig, Glöckner, & Zettler, 2014). Humility is never shown in isolation; it is inherently a relational concept relevant to the community rather than the individual (Tangney, 2009). Research indeed confirms humility as a relationship-specific personality judgment (Davis, Worthington, & Hook, 2010) that robustly predicts generosity (Exline & Hill, 2012). This kind of humility is closely related to modesty, one of the facets captured by HEXACO honesty-humility. Modesty helps people to not place themselves above others, which can be projected onto the characteristic other-regard of social mindfulness: Needs and possible wishes of others are actively considered.

However, further tests could corroborate our conclusions. One direction would lead beyond hypothetical choices to examine how social mindfulness relates to actual behavior in field or laboratory settings to distinguish between active and reactive cooperation. Following previous literature, various economic games could be used, especially dictator (active cooperation) and ultimatum games (reactive cooperation) (cf. Hilbig et al., 2013; Zhao & Smillie, 2015). Another option is to investigate whether social mindfulness is more strongly

related to regular charitable donations (without immediate request) than with disaster donations in response to immediate needs (Manesi, Van Lange, Van Doesum, & Pollet, 2018). Additional tests in field or observational studies could provide information as well.

Implications and limitations

Many acts of prosociality are performed in response to the demands and/or needs of others, be it direct or indirect. Examples range from quickly helping to carry an older lady's groceries off the bus to responding to requests for donations to people in need, or even saving the neighbors' daughter from a burning house. In many ways it is easier, because less ambiguous, to respond to requests for help than to actively initiate helping. But although reactive helping is likely to be construed as helpful, proactive helping will create a more direct sense of basic interpersonal acknowledgment, mainly because the needs of others are seen spontaneously. In essence, active prosociality as expressed in social mindfulness creates a connection that acknowledges and respects others' autonomy – which, after all, may be a basic psychological need (Deci & Ryan, 2012).

A more general implication for positive psychology is that whereas self-directed mindfulness may boost psychological health and individual well-being (Remmers, Topolinski, & Michalak, 2015), *social* mindfulness can have positive effects on interpersonal relations (e.g. Van Doesum et al., 2013). Literature shows that acting prosocially not only helps others (Batson & Powell, 2003; Penner, Dovidio, Piliavin, & Schroeder, 2005) but also enhances the actor's well-being (Aknin et al., 2013; Klein, 2017). A socially mindful acknowledgement of others thus could improve social relations at little to no cost to the actor; it really is the gesture that counts (Lemmers-Jansen et al., 2018). One might speculate that acts of social mindfulness support constructive relationships, thereby sustaining or promoting a relatively enduring prosocial mindset – a constellation of other-regarding tendencies, such as expressing trust, generosity, and gratitude, when one approaches and responds to others nearby (e.g. Visserman, Righetti, Impett, Keltner, & Van Lange, 2018) or far away (e.g. Manesi et al., 2018).

Setting theory aside, we also suggest the general importance of the methodology used to measure social mindfulness. Specifically, the SoMi paradigm does not rely on traditional self-report by using (forced) choice methodology that might mimic or generalize to behaviors that are often labeled as polite, thoughtful, or kind. The use of self-report measures remains a much-debated limitation in research on well-being (e.g. Koydemir & Schütz, 2012; Krueger & Stone, 2014) and the field of positive psychology in general. For example, character strengths like humility are difficult to measure by cause of confounds with positive

self-esteem or subjective well-being (Goodman, Disabato, & Kashdan, 2018). And research on the prosocial effect of gratitude is often limited by self-report methodologies as well (Tsang, 2006). Using the behavioral SoMi paradigm in this broader context could provide an answer and may open new avenues for examining prosociality in non-monetary gestures or involving high stakes.

Both a limitation and a strength is the fact that the relations between social mindfulness and the applicable variables were assessed in four consecutive studies in very different settings. Even though this shows valuable and necessary validation across samples and cultures, it does not provide information on the full theoretical model in one large and culturally coherent study, and also limits generalizability. It may be fruitful to combine all measures in one large and overarching study, which subsequently can be replicated across various nations and cultures to assess differences and generalizability.

In Study 4, HEXACO and social mindfulness were measured six years apart. The fact that we still found meaningful correlations is indicative of the strength of the relation over time, but conclusions are limited by the fact that no baseline was established in which both measures were taken at the same moment. This could be addressed by future longitudinal research that tests whether and how relations develop over time.

Extant research shows that people who choose the non-unique product in the SoMi paradigm are trusted more, liked better, and seen as more attractive cooperation partners (Van Doesum et al., 2013, Study 2a and 2b). They also elicit reciprocated cooperation (Dou et al., 2018). We are thus comfortable concluding that socially mindful decisions can be viewed as prosocial, with beneficial effects on relationship development. Alternative explanations for our findings may still be proffered, though. Norm following could be at play, for instance, or people may strategically make the socially desirable decision. However, social norms need to be activated before they can shape behavior. Social mindfulness is leading this activation. It is exactly the realization ('seeing it') that one is dealing with a situation that can be turned into an opportunity for prosocial behavior ('doing it') that makes social mindfulness such a useful concept in understanding prosociality. Future research could further flesh out such questions which lie at the heart of positive psychology.

We should mention, finally, that most pairwise correlations we found were only about .10–.20 in size. Such effect sizes are not unusual in personality research, however, and small differences may still have large implications (Ozer & Benet-Martinez, 2006). In this context, Gignac and Szodorai (2016) recommend researchers in individual differences to interpret correlations of .10, .20, and .30 as small, medium,

and large, respectively, to obtain an accurate sense of the magnitude of effect sizes.

Conclusion

Proactive and reactive prosociality may be clearly distinguishable, but are not mutually exclusive (Hilbig et al., 2013); the one reinforces the other while being applied in the various domains that people encounter on a daily basis. Reactive prosociality is useful to maintain and/or extend existing relationships. But to start building relationships, it is functional to proactively take initiative in defining respective roles and positions. Research suggests that honesty-humility plays a fundamental role in this latter process, and we argue that social mindfulness does as well: Humbly – in the sense of not placing oneself above others – and mindfully anticipating the needs of others may create a good opening to construct mutually respectful social relationships.

Notes

1. Note that 'social mindfulness' is distinct from the popular construct of 'mindfulness.' Although both constructs share a focus on 'being aware in the present moment,' social mindfulness explicitly focuses on others, whereas mindfulness focuses on the self. For a more extensive discussion, see (Van Doesum et al., 2013).
2. Due to computer malfunction, one item was missing from conscientiousness ('easily distracted'), and one item from neuroticism ('can be moody'). Reliabilities were computed using the remaining items.
3. However, using the whole sample ($N = 306$) showed matching results and allowed for almost identical conclusions; the only difference was a significant correlation with psychopathy ($r = -.14$, $p = .017$). See Supplemental Materials.
4. Social value orientation $\beta = .21$, $p < .001$, age $\beta = .12$, $p = .005$, gender and study of origin *ns*.
5. Social value orientation $\beta = .12$, $p = .003$, age and gender *ns*.

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