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Going far together by being here now: Mindfulness increases cooperation in negotiations

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ABSTRACT

Integrating theorizing across the mindfulness and negotiation literatures, we hypothesize that mindfulness increases cooperation in negotiations. We further propose that processes of self-transcendence, self-regulation, and self-awareness mediate this effect. We test these hypotheses in five studies across different forms of cooperation, in both distributive and integrative negotiation contexts, and for both measured and experimentally induced mindfulness. In Study 1a, individuals higher on measured state mindfulness displayed greater cooperative orientation measured as preference for pareto-optimal agreements. In Study 1b, experimentally induced mindfulness led to greater cooperative orientation measured as the recall of cooperative heuristics. In Study 2, a distributive (fixed-sum) negotiation, dyads who engaged in a mindfulness practice before the negotiation were more likely to reach cooperative agreements with more equal distribution of the bargaining zone than control condition dyads. In Study 3, an integrative negotiation, dyads who engaged in a mindfulness practice before the negotiation were more likely to reach win-win agreements than control condition dyads. Finally, in Study 4, another integrative negotiation, we found that mindful dyads achieved greater joint gains and the effect was mediated by self-transcendence. Overall, results provide substantial evidence that mindfulness is an effective intervention for increasing cooperation in negotiations.

Keywords: Cooperation; Cooperative Orientation; Distributive Negotiation; Integrative Negotiation; Mindfulness; Negotiation; Self-Transcendence

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INTRODUCTION

In 2018-2019, the United States federal government closed down for 34 days, for the longest shutdown in recent US history. Despite huge stakes, vast experience, and the support of a well-established institutional framework, the negotiating parties were not able to cooperate and reach a timely agreement to fund the government. This example illustrates the dire consequences that negotiators' inability to cooperate can have – in this case costing billions of dollars and hurting the lives of millions in the United States and beyond (Zaveri et al., 2019). On the other hand, research has shown that when negotiators cooperate, parties stand to gain considerably from equitable and integrative agreements (Van Lange, 1999).

Why do some negotiators cooperate, whereas others do not? In the present research, we examine this question from the perspective of mindfulness. Mindfulness can be defined as an open, present-centered awareness through processes of self-awareness, self-regulation, and self-transcendence (Bishop et al., 2004; Vago & Silbersweig, 2012). Over the past decades, a substantial amount of research has accumulated on mindfulness, with several meta-analyses attesting to its intrapersonal benefits on health and well-being (e.g., Hofmann, Sawyer, Witt, & Oh, 2010; Khoury et al., 2013).

More recent research has examined mindfulness in interpersonal domains such as leadership (e.g., Reb et al., 2014) and prosocial behavior (e.g., Donald et al., 2019; Hafenbrack et al., 2020). Extending this research, we test the hypothesis that mindfulness increases cooperation in negotiations. In previous research, Reb and Narayanan (2014) found that more mindful negotiators managed to claim a larger share of a fixed bargaining zone than their baseline counterparts. Although this research made a valuable contribution, it was also limited in that it focused on value claiming – not cooperation – within the context of distributive negotiation

situations only, and pitted mindful negotiators against control condition negotiators.

In the present research, we examine cooperation in negotiations at both the individual level (as cooperative orientation) and the dyadic level (as cooperative agreements), in both distributive and integrative negotiation settings. Specifically, we report five studies employing different samples, different incentives, different operationalizations of mindfulness (and control conditions), different negotiation situations, and different measures of cooperation. In so doing, our research makes a number of contributions. First, our research links mindfulness to a domain crucial for human thriving: cooperation. It thus responds to calls for more research on mindfulness in interpersonal contexts in order to clarify whether the intrapersonal benefits of mindfulness extend to the interpersonal domain (e.g., Creswell, 2017). While initial research has suggested that mindfulness might lead to greater cooperation in one-shot economic games, this research has looked at individual level outcomes in abstract experimental paradigms (Kirk et al., 2016). The present studies examine mixed-motive negotiations in which negotiators interact dynamically and allow for a more realistic test of the effect of mindfulness on cooperation. Moreover, drawing on Vago and Silbersweig (2012) we investigated whether the processes of self-awareness, self-regulation, and self-transcendence play a role as mediating mechanism (Study 4) linking mindfulness to cooperation.

Second, despite decades of research on cooperation from evolutionary, economic, sociological, and psychological perspectives, the role of attention in cooperation is relatively less well understood, with most research interestingly studying joint attention and cooperation in children (Mundy & Newell, 2007; Wu et al., 2013; Yuill et al., 2014). This is remarkable given the vast amounts of research supporting the fundamental importance of attention and its regulation for human behavior (Carver & Scheier, 2012; Rueda et al., 2004; Schmeichel, 2007).

Some research suggests that cooperation in infants and toddlers is preceded by joint visual attention (Bono et al., 2004; Brownell et al., 2006). More recently, Shteynberg (2015) argued that shared attention is an important antecedent to intra-group coordination. The present research enhances our understanding of the attentional micro-foundations of cooperation by investigating the effects of mindfulness in negotiations. In so doing, it complements research on cognitive and motivational antecedents of cooperation (McAllister, 1995; Morrow Jr et al., 2004).

Finally, our research examines how cooperation can be facilitated endogenously and proactively. A nascent pool of research focuses on how changing contextual factors may enhance cooperation (e.g., providing rewards and penalties, Balliet, Mulder, & Van Lange, 2011; communication, Balliet, 2010; sharing pain, Bastian, Jetten, & Ferris, 2014; invoking reciprocity, Nai, Lin, Kotha & Vissa, 2021; eating from the same dish, Woolley & Fishbach, 2019). While this approach is promising, these contextual factors are often beyond the control of negotiators. Thus, the present research not only complements the recent research on contextual factors that enhance cooperation, but also extends research on the facilitation of cooperation to situations in which contextual factors cannot easily be changed.

From a practical standpoint, a limitation of past research is that very few studies provide practical interventions that facilitate cooperation (e.g., reducing speech prosody, Curhan & Pentland, 2007; mimicking counterpart behaviors, Maddux, Mullen, & Galinsky, 2008). Mindfulness is attractive because it can be trained and developed, at low cost (Kiken et al., 2015) and is often an intervention that negotiators can adopt by themselves. Identifying effective interventions to induce cooperation could serve a great practical utility.

THEORIZING AND HYPOTHESIS DEVELOPMENT

Defining and Operationalizing Cooperation

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At the individual level, cooperation can be defined as an orientation towards working together to reach mutually beneficial outcomes (e.g., making cooperative choices in social dilemma games, Kramer, McClintock, & Messick, 1986, or preferring public transportation over commuting by car, Van Vugt, Meertens, & Van Lange, 1995). At a dyadic or team level, cooperation can be defined as two or more parties working together to reach agreements that are mutually beneficial (e.g., Van Lange, 1999). Cooperation is thus different from more general prosocial behavior, such as helping behavior, that is meant to benefit the recipient and in which individuals engage in unilaterally. In a negotiation context, cooperation can be operationalized as the degree of equality of the agreement in purely distributive negotiation settings and as the degree of joint gain (win-win agreements) in integrative negotiation settings (Van Lange, 1999).

Understanding and fostering cooperation in negotiations presents a continued theoretical and practical challenge (Deutsch, 2011; Van Lange, De Bruin, Otten, & Joireman, 1997). Existing theoretical approaches draw on evolutionary theory, examining why cooperation might have evolved in humans and other species, despite selfish genes (Dawkins, 1976); other accounts have been economic (e.g., focusing on incentives for cooperation, Tabellini, 2008), institutional (e.g., focusing on governance structures, Hill, 1990), cultural (Boyd & Richerson, 2009; Gächter et al., 2010; Wong & Hong, 2005), emotional-motivational (e.g., examining the role of emotions, Allred, Mallozzi, Matsui, & Raia, 1997), and cognitive (e.g., cognitive biases that hinder cooperation, such as the fixed-pie bias, Pinkley, Griffith, & Northcraft, 1995). In the present research, we take an attentional perspective, asking if mindfulness might lead to more cooperation in negotiations.

The Role of Mindfulness in Cooperation in Negotiations

Drawing on both mindfulness and negotiation literatures, we argue that mindfulness

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facilitates greater cooperation. To develop this argument, we utilize the S-ART framework (Vago & Silbersweig, 2012). This comprehensive, generative framework integrates ideas from contemplative writings on mindfulness with modern research in neuroscience and psychology. The central tenet of the theory is that through mindfulness practice, individuals develop their capacity to have meta-awareness of their current experience (self-awareness), regulate their emotional and behavioral responses to their experience (self-regulation) and transcend an egocentric self-focus (self-transcendence). The S-ART framework makes no assumption as to the temporal sequencing or importance of these three dimensions, i.e., that individuals first develop self-awareness, then self-regulation, then self-transcendence, or that one of the dimensions is more important than another. Below we consider how each of these dimensions might play an important role in facilitating cooperation.

First, self-awareness, defined as awareness of one's own experiences, or meta-awareness (Vago & Silbersweig, 2012), could facilitate cooperation by providing negotiators with psychological distance, thereby helping them creatively solve the problem of finding win-win agreements (Hafenbrack, 2007; Simms, 2009). Self-awareness allows individuals to decenter, or "step back", from their immediate experience, thoughts, and emotions (Schooler et al., 2011). Doing so helps mindful negotiators to disengage from negative thoughts and feelings, and focus their minds on the task at hand; being more focused may help negotiators discover win-win agreements, for example, by cycling through more potential solutions in their mind (Kudesia, 2015). Also, it enables more deliberate, flexible responding, rather than reacting habitually based on affective impulses (Chong et al., 2015; Papies et al., 2012) and such responding may help negotiators switch to a problem-solving cooperative frame (Olekalns et al., 2003).

Second, self-regulation could facilitate cooperation by enabling negotiators to effectively

modulate their emotions and behaviors to the negotiation situation (Kopelman et al., 2011; Vago & Silbersweig, 2012). Self-regulation can mitigate the escalation of frustrations and conflict, and soften retaliation impulses in response to competitive or aggressive behaviors from counterparts, which are commonplace in mixed-motive negotiations (Adler et al., 1998; Barry & Oliver, 1996). Self-regulation could also help dampen negative emotions, such as fear, and their subsequently elicited action tendencies, such as reduced information sharing and trust behaviors (Butler Jr, 1999; Renzl, 2008; L. L. Thompson, 1991), thus leading to more cooperation (e.g., Pillutla & Murnighan, 1996).

Finally, self-transcendence could facilitate cooperation because it fundamentally shapes how negotiators frame the interaction with their counterpart. Specifically, self-transcendence implies an attentional shift away from processing information in an egocentric manner as individuals disengage from the habitual tendency to refer all experiences to their own self (Golubickis et al., 2016). By shifting away from an egocentric focus, self-transcendence leads to a more interdependent view of the self in relation to others, greater perspective taking, and greater ability to process the emotional states of others (Block-Lerner et al., 2007; Condon et al., 2013). Past research has found that transcending identity to include others leads to greater willingness to help (Nai, Narayanan, Hernandez & Savani, 2018). This should result in a more cooperative orientation, both cognitively and motivationally. This more interdependent, self-transcending perspective is likely to expand negotiators' notion of negotiation success to include the other party (Kopelman et al., 2011). In distributive negotiations, self-transcendence can thus help overcome the common obstacle of a narrow focus on individual or competitive advantage (Van Lange, 1999). Further, self-transcendence can help avoid the egocentric bias of assuming that the counterpart wants the same as they want (fixed-pie perception; Neale & Bazerman,

1983). As a result, self-transcendence can help negotiators find integrative solutions (Bazerman & Neale, 1986).

Overall, we thus hypothesize that mindfulness leads to greater cooperation in negotiations. Further, we hypothesize that it does so through the mediating processes of self-transcendence, self-regulation, and self-awareness. In this study we empirically examine these mechanisms to determine which dimension (or combination of dimensions) plays a critical role in mediating the relationship between mindfulness and cooperation.

Hypothesis 1: Mindfulness is associated with greater cooperation in negotiations.

Hypothesis 2a: Self-transcendence mediates the positive relationship between mindfulness and cooperation in negotiations.

Hypothesis 2b: Self-regulation mediates the positive relationship between mindfulness and cooperation in negotiations.

Hypothesis 2c: Self-awareness mediates the positive relationship between mindfulness and cooperation in negotiations.

Cooperation can show itself in different ways, depending on the specific form of cooperation and the negotiation situation. Specifically, we expect more mindful individuals to have a more cooperative orientation. In distributive negotiation situations, we expect more mindful dyads to be more likely to reach equal sharing agreements. In integrative negotiation situations, we expect more mindful dyads to be more likely to reach win-win agreements and maximize joint gains.

OVERVIEW OF STUDIES

We test the above hypotheses in five studies (Hypothesis 1 in Studies 1a, 1b, 2, and 3, and all hypotheses in the final Study 4). Study 1a examines whether individuals higher on

measured state mindfulness display greater explicit cooperative orientation as measured by preference for pareto-optimal agreements. Study 1b investigates whether experimentally induced state mindfulness increases implicit cooperative orientation as measured by the recall of cooperative heuristics. Building on these initial studies, Study 2 tests whether mindful dyads (who were randomly assigned to engage in a mindfulness practice before the negotiation) reach more cooperative, equal-sharing agreements in a distributive negotiation situation than control dyads. Study 3 extends the investigation to an integrative negotiation situation, examining whether mindful dyads are more likely to find win-win, pareto-optimal agreements than control dyads. Finally, Study 4 conceptually replicates whether mindfulness facilitates win-win agreements and also investigates self-transcendence, self-regulation, and self-awareness as the mediating mechanisms. All data and syntax for the final analyses reported in the paper are available at https://osf.io/fv36u/.

STUDY 1A

In this first study, we tested Hypothesis 1, that more mindful individuals have a more cooperative orientation. As mentioned above, at the individual level, cooperation can be conceptualized as a cognitive-motivational orientation, in which individuals process information and make decisions not purely from an egocentric focus but also from an other-focus (De Dreu & Nauta, 2009). At an explicit level, this orientation is often measured as a social value orientation towards pareto-optimal options (Balliet, Parks, & Joireman, 2009; Murphy, Ackermann, & Handgraaf, 2011; Van Lange, 1999). A cooperative orientation can be contrasted with an individualistic orientation, in which negotiators care about the outcomes for themselves (and not the joint outcome), and with a competitive orientation, in which negotiators care about the relative difference in outcomes and not the absolute outcome (and may be willing to accept less

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as long as they get more than their counterpart). As individuals habitually engage in self-motivated reasoning and process information in an egocentric manner (Ross & Sicoly, 1979), individualistic and competitive orientations are common, even though they tend to result in lower joint and even individual gains in negotiations (Murphy et al., 2011; Olekalns et al., 1996).

Importantly, given that we measured, rather than manipulated, state mindfulness, we examined whether mindfulness explains incremental variance in cooperative orientation over and above known predictors of negotiation outcomes and prosocial behavior. With respect to personality, agreeableness in particular has been shown to predict cooperation. Agreeable people are kind and tend to be trusting and trustworthy (Costa & McCrae, 1992; John & Srivastava, 1999); consistent with these characteristics, meta-analytic evidence suggests that agreeableness predicts cooperative behaviors in simple choice negotiation paradigms (Sharma et al., 2013).

With respect to emotions, mindfulness is negatively related to anxiety and distress, and both may reduce cooperation as anxious and distressed negotiators are eager to exit negotiations to reduce their uncomfortable emotional states (Coke et al., 1978; Brooks & Schweitzer, 2011). In contrast, mindfulness is positively related to empathy, which entails a more altruistic motivation that is fueled by the desire to reduce others' need or suffering (Batson et al., 1987). In negotiations, empathy has been found to increase desire to work with the counterpart and to improve joint gains (Allred et al., 1997).

With respect to cognition, both reflection and rumination are states of self-attentiveness, similar to mindfulness. However, reflection is defined as "self-attentiveness motivated by curiosity or epistemic interest in the self" whereas rumination is "self-attentiveness motivated by perceived threats, losses or injustice to the self" (Trapnell & Campbell, 1999, p. 297). Reflection – a cool detachment – can improve cooperation because it facilitates a third-party perspective

that is constructive to both parties (Fisher et al., 2011). On the other hand, rumination focuses attention on negative mood, its causes and consequences (Rusting & Nolen-Hoeksema, 1998), and increases anger and hostility (Bushman et al., 2005). When individuals were allowed to ruminate on how the negotiation went, they seem to default to a competitive orientation and in turn achieved lower quality agreements (Harinck & De Dreu, 2008).

Methods

Participants, Design, and Procedure

One hundred and two undergraduate students (43 male, 59 female, $M_{age} = 20.82$, $SD_{age} = 1.44$) at a Singaporean business school participated in exchange for partial course credit. Participants completed personality variables about a week before the lab session. During the lab session, they completed several state scales, including mindfulness and cooperative orientation.

Measures

State mindfulness. We assessed state mindfulness ($α = .88$) with the 5-item State Mindful Awareness and Attention Scale (Brown & Ryan, 2003), a validated and widely used scale. The scale measured how mindful participants were in the moment prior to measuring cooperative orientation. Sample items are "I find it difficult to stay focused on what's happening in the present" and "I rush through activities without being really attentive to them", with a 5-point response format (1 = strongly disagree, 5 = strongly agree). All items were reverse coded such that a higher score indicates higher mindfulness.

Cooperative orientation. We assessed cooperation using the Social Value Orientation measure (Van Lange et al., 1997), a validated and widely used measure to assess individuals' preferences for cooperative, competitive, and individualistic (selfish) options. The measure presents respondents with nine different decision scenarios involving the allocation of points to

themselves and a counterpart. Each scenario presents a forced choice among three options with different combinations of points, such that one combination was cooperative and pareto-optimal, maximizing joint gain (e.g., "you get 480, counterpart gets 480"), one was competitive, maximizing differences in outcomes (e.g., "you get 480, counterpart gets 80"), and one was individualistic, maximizing own gain (e.g., "you get 540, counterpart gets 280"). Cooperative, competitive, and individualistic scores were calculated by summing up across the nine choice scenarios. Hence, the most cooperative score would be 9 and the least would be 0.

Control variables. For completeness and on an exploratory basis, we assessed not only agreeableness ($\alpha = .77$), but also conscientiousness ($\alpha = .79$), neuroticism ($\alpha = .82$), openness ($\alpha = .81$) and extraversion ($\alpha = .86$), using the established Big Five Inventory (John, Donahue, & Kentle, 1991; John, Naumann, & Soto, 2008). Sample items are, respectively, "is considerate and kind to almost everyone", "perseveres until the task is finished", "can be moody", "is inventive" and "has an assertive personality". We used a 5-point response format (1 = never or rarely true, 5 = very often or always true). We assessed anxiety ($\alpha = .88$) using a 4-item scale from Brooks and Schweitzer (2011) and empathy ($\alpha = .90$) and distress ($\alpha = .92$) using 6-item and 7-item scales from Coke and colleagues (1978). Participants indicated how they felt right now on a 5-point response format (1 = not at all, 5 = extremely). Sample items are "anxious", "moved" and "grieved", respectively. We measured rumination ($\alpha = .84$) and reflection ($\alpha = .87$) using a 12-item scale from Trapnell and Campbell (1999), asking participants to indicate their agreement at the present moment. Sample items are "My attention is often focused on aspects of myself I wish I'd stop thinking about" and "Philosophical or abstract thinking doesn't appeal to me that much" (reverse scored) for rumination and reflection, respectively. We used a 5-point response format (1 = strongly disagree, 5 = strongly agree). We also measured gender and age.

Results and Discussion

Table 1 shows correlations of the study variables and Table 2 shows the results of three separate multiple linear regressions predicting cooperative orientation as the main dependent variable, as well as individualistic and competitive orientation, for purposes of establishing discriminant validity. Consistent with Hypothesis 1, mindfulness was positively related to cooperative orientation ($B = 1.36$, $SE = 0.56$, $t = 2.45$, $p < .05$; Δadjusted $R^2 = .05$ compared to a model with only control variables), showing incremental validity beyond all other included variables. The result held when excluding all control variables ($B = 1.14$, $SE = 0.44$, $t = 2.61$, $p < .05$) and for the bivariate relation between mindfulness and cooperative orientation.

Providing evidence for discriminant validity, mindfulness predicted neither individualistic (with controls: $B = -0.93$, $SE = 0.53$, $t = -1.77$, $p < .10$; without controls: $B = -0.75$, $SE = 0.41$, $t = -1.82$, $p < .10$) nor competitive orientation (with controls: $B = -0.32$, $SE = 0.25$, $t = -1.24$, $p = .22$; without controls: $B = -0.32$, $SE = 0.20$, $t = -1.63$, $p = .11$), showing that it was not the case that mindfulness related to "everything", perhaps due to common method variance (see Table 2).

--- Insert Tables 1 & 2 around here ---

Study 1a provides initial evidence that more mindful individuals have a more cooperative orientation. However, these findings need to be viewed in light of the study's limitations. First, despite evidence for incremental and discriminant validity, the study remains cross-sectional in nature and the usual concerns about internal validity apply. Second, despite allowing participants to answer in private, the measure of cooperative orientation was an explicit self-report measure, which could suffer from limitations of accuracy of conscious introspection (Wilson, 2003; Wilson & Brekke, 1994). To address these limitations, Study 1b uses an experimental design and

an implicit cooperative orientation measure.

STUDY 1B

Methods

Participants, Design, and Procedure

One hundred and four undergraduate students at a Singaporean business school

participated in exchange for partial course credits. Two participants were excluded from the

study as their answers suggest that they did not participate seriously.[1] A final sample of 102

participants (49 male, 53 female, $M_{age} = 20.61$, $SD_{age} = 1.07$) was retained for analysis.

We used a between-subjects experimental design in which participants were randomly

assigned to a mindfulness or control condition. Participants arrived at the lab and were seated in

private cubicles. Participants were informed that they would listen to an audio guided exercise

and engage in a negotiation simulation with another randomly selected student. In actuality,

participants listened to the audio guided exercise, which constituted the manipulation, responded

to manipulation check questions, and prepared for the negotiation. There was no actual paired

negotiation and all the participants received the same preparation information.

The preparation information consisted of the Student Project negotiation (Thompson,

2000), which contains six negotiation issues regarding paired project work (i.e., topic to study,

type of project, method of presentation, date of presentation, duration, time to work). All

participants received the same role and a separate sheet containing a list of negotiation heuristics

adapted from De Dreu and Boles (1998). Even though the list of negotiation heuristics was

accompanied by the instructions to "pay careful attention to these rules (of thumb)", participants

were unaware that they would have to recall the heuristics later. Participants had 20 minutes of

preparation time before all the materials were removed. They then completed a filler task and were subsequently asked to recall as many negotiation heuristics as they could. Finally, the experimenter concluded the study and debriefed the participants.

Manipulation

We manipulated mindfulness using an established experimental paradigm in the mindfulness literature (Arch & Craske, 2006; Hafenbrack et al., 2014). In both the mindfulness and control condition, participants listened to a 15-minute audio recorded by a professional mindfulness meditation instructor. Participants in the mindfulness condition ($n = 52$) listened to a breath awareness practice, in which they were repeatedly asked to bring their awareness to the physical sensations of breathing as well as to other bodily physical sensations. Participants in the control condition ($n = 50$) listened to a mind wandering practice, in which they were repeatedly asked to let their mind wander and follow whatever thoughts came to mind. This simulates a baseline waking mental state (Mason et al., 2007) and has been a widely used control in previous research (e.g, Arch & Craske, 2006; Hafenbrack & Vohs, 2018; Kiken & Shook, 2011).

Measures

Cooperative orientation. Following De Dreu and Boles (1998), we assessed implicit cooperative orientation through participants' performance on a delayed free recall task for previously shown cooperative negotiation heuristics. Participants were given a list of 24 negotiation heuristics, of which 8 were cooperative (e.g., "share and share alike"), 8 were competitive (e.g., "your loss is my gain") and 8 were neutral (e.g., "time is money").

Two research assistants blind to conditions and hypotheses coded participant responses independently. They were instructed to first determine whether the recalled heuristic was correct (i.e., from the list of 24 heuristics) or not. If it was correct, they then categorized it as

cooperative, competitive, or neutral, according to the list of heuristics. If it was incorrect, the

coders had to decide whether the heuristic was cooperative, competitive, or neutral. The coders'

interrater reliability was .82, measured by Cohen's Kappa for categorical data. Subsequently,

they came together and reconciled any differences via discussion. In this way, responses were

coded into one of six categories: *correct cooperative, correct competitive, correct neutral*,

incorrect cooperative, incorrect competitive or incorrect neutral. The main dependent variable

was the number of correctly recalled cooperative heuristics (i.e., *correct cooperative*), but for

discriminant validity and exploratory purposes we also examined the other variables.

 Manipulation check. After listening to the audio, participants indicated to what extent

they were 1) focused on their breathing, 2) focused on the physical sensations of their breath, 3)

in touch with their body, and 4) absorbed in the present moment, on a 5-point Likert scale (1 =

very slightly or not at all, to 5 = extremely), α = .81. Participants in the mindfulness condition

scored significantly higher (M = 2.89, SD = 0.71 than those in the control condition (M = 2.21,

SD = 0.75), $F(1,100)$ = 23.0, p < .001, indicating that the manipulation was successful.

Results and Discussion

 We found that the number of correct responses, incorrect responses and overall total

responses did not significantly differ between the mindfulness (*correct heuristics*: M = 4.06, SD

= 2.34, *incorrect heuristics*: M = 1.21, SD = 1.33 and *total heuristics*: M = 5.27, SD = 2.26) and

the control condition (*correct heuristics*: M = 4.20, SD = 2.17, *incorrect heuristics*: M = 0.94, SD

= 1.24, and *total heuristics*: M = 5.14, SD = 2.04, all Fs < 1.15, all ps > .25). This suggests that

there were no differences between conditions in general memory performance.

 We conducted three ANCOVAs with condition as the independent variable, total correct

heuristics recalled as covariate and correct heuristics recalled (cooperative, competitive and

neutral, respectively) as dependent variable. The analyses revealed that significantly more

correct cooperative heuristics were recalled in the mindfulness condition ($M = 1.35$, $SD = 1.22$)

than the control condition ($M = 1.04$, $SD = 1.03$), $F(2, 99) = 4.43$, $p < .05$, $\eta^2 = .04$ (see also

Figure 1). However, no significant differences were found for *correct competitive* heuristics

(mindfulness: $M = 1.65$, $SD = 0.97$; control $M = 1.82$, $SD = 1.30$), $F(2, 99) = .49$, $p = .49$, η^2

$= .005$, and *correct neutral* heuristics (mindfulness $M = 1.06$, $SD = 1.04$; control $M = 1.34$, $SD =$

1.36), $F(2, 99) = 1.52$, $p = .22$, $\eta^2 = .02$.[2]

--- Insert Figure 1 around here ---

Taken together, the results of Study 1b are consistent with Study 1a and Hypothesis 1.

While Study 1a provides correlational evidence using an explicit cooperative orientation

measure, Study 1b provides experimental evidence using an implicit cooperative orientation

measure. The studies provide incremental and discriminant validity evidence. However, a

limitation of both studies is that they only examined cooperation at the individual level, without

any dyadic interaction. To address this limitation, Study 2 was conducted as a distributive dyadic

negotiation. In a dyadic negotiation setting, cooperation is reflected in the joint decision of the

negotiation parties. Negotiation theory generally differentiates between distributive and

integrative negotiation situations. In distributive situations, negotiators – such as buyers and

sellers – have to jointly decide on how to divide fixed-sum resources among themselves.

Therefore, in distributive negotiations, cooperation is indicated by the degree to which

agreements between the negotiation parties equally share the fixed pie (Van Lange, 1999).

STUDY 2

Methods

Participants, Design, and Procedure

One hundred undergraduate students at a Singaporean business school participated in exchange for partial course credits. Three dyads were excluded from analyses – one dyad failed to indicate whether they reached an agreement on the negotiation contract sheet (in the control condition) and two dyads reached an agreement below one negotiator's reservation point (one in the mindfulness condition and one in the control condition).[3] The final sample consisted of 94 participants (46 male, 48 female, $M_{age} = 21.62$, $SD_{age} = 2.56$), totaling 47 dyads.

Given that we were interested in cooperation at the dyadic level, we used a between-dyads experimental design in which dyads were randomly assigned to a mindfulness or control condition. Participants arrived at the lab and were told they would engage in a negotiation. The negotiation case was a single-issue buyer-seller negotiation about the price of an industrial plant (Synertech-Dosagen exercise; Greenhalgh, 1993). Participants were randomly assigned to either the role of buyer or seller and randomly paired up. Then, they received instructions, which included the manipulation, and were asked to prepare for the upcoming negotiation. Next, they negotiated with their counterparts, completed the agreement sheet, and were debriefed.

Manipulation and Measures

Mindfulness. We manipulated mindfulness in the additional preparation instructions given to dyads. In both the mindfulness and control condition, dyads received additional three minutes to prepare but different instructions on how to utilize this preparation time. Negotiators in the mindfulness condition ($n = 26$ dyads) were given instructions to simply observe their breath while counting from 1 to 5, an experimental induction found to be successful with novices (Ramsburg & Youmans, 2014). Negotiators in the control condition ($n = 21$ dyads) received instructions to continue to prepare for the negotiation.

To test whether the manipulation would indeed induce mindfulness, we conducted a

manipulation check on an independent sample drawn from the same population as the sample of the main study. Participants ($N = 150$, $M_{age} = 2346$, $SD_{age} = 1.49$, 84 female, 65 male, 1 prefer not to disclose) were randomly assigned to a mindfulness or control condition. In the mindfulness condition they followed the same instructions as in the main study; in the control condition they were asked to prepare for their upcoming day for three minutes. After the manipulation, all participants completed 10 items from the State Mindfulness Scale (Tanay & Bernstein, 2013) with an example item being "In the last few minutes, I felt closely connected to the present moment" ($\alpha = .94$). As expected, mindfulness was rated higher in the mindfulness condition ($M = 3.60$, $SD = 0.87$) than in the control condition ($M = 2.78$, $SD = .99$), $F(1, 148) = 28.96$, $p < .001$. We conclude that the manipulation is effective in inducing mindfulness in our study population.

Cooperation. Following Van Lange (1999), we operationalized cooperation in this fixed-sum distributive negotiation situation as the degree of equality in splitting the fixed, positive bargaining zone. Negotiators' reservation prices were set at 17 and 25 million, respectively, for the seller and buyer, for a positive bargaining zone of 8 million (25 minus 17). We assessed equal sharing through the absolute difference between seller and buyer gain, which could range from 0 to 8. Figure 2 illustrates possible agreement prices (x-axis), resulting individual gains (y-axis with different lines for buyer and seller) and absolute differences in gains. For example, if a dyad's agreed price is 21 million, each party has an equal gain of 4 million (y-axis) and the absolute difference is 0.

Results and Discussion

We categorized agreements as *equal sharing* (i.e., each party claimed 4 million), *somewhat unequal* (i.e., one party claimed more than 4 million but less than 8 million) and

perfectly unequal (i.e., one party claimed the entire 8 million). Table 3 shows the distribution of

agreements. Equal sharing was more common in mindful dyads (15.4%) than in control dyads

(4.8%) and perfectly unequal agreements only happened in the control condition (19.0%) and

never among mindful dyads (0%). The distribution of agreements was significantly different

between conditions, χ^2 (2, $N = 47$) = 6.29, $p < .05$. To better illustrate the impact of being in the

mindfulness condition on equal sharing, we constructed a dichotomous variable coding equal

sharing as 1 and unequal sharing as 0 and calculated an odds-ratio. The odds-ratio represents the

ratio of the odds of equal sharing in the mindfulness condition compared to the odds of equal

sharing in the control condition. The odds-ratio was 3.64, meaning mindful dyads were over

three and a half times more likely to reach equal sharing agreements than controls dyads.

--- Insert Figure 2, Table 3, and Figure 3 around here ---

We followed up on these analyses of frequencies with an ANOVA with condition as the

independent variable and cooperation (i.e., absolute difference in gains) as dependent variable.

The analysis revealed a significant effect on cooperation such that the bargaining zone was

shared more equally in the mindfulness condition ($M = 2.57$, $SD = 1.92$) than in the control

condition ($M = 4.67$, $SD = 2.65$), $F(1, 45) = 9.86$, $p < .01$, $\eta^2 = .18$.

To provide a visual illustration of equality, we generated separate Lorenz Curves

(Gastwirth, 1971) for participants in the mindfulness and control conditions, by plotting the

cumulative proportion of gains versus cumulative proportion of sample in each condition (see

Figure 3). The figure shows that participants in the mindfulness condition had more equally

distributed gains. In the mindfulness condition, the bottom 50% of sample earned 34% of gains,

the next 30% earned 36% of gains, and the top 20% earned 30% of gains. The Gini index, an

indicator of inequality ranging from 0 (most equal) to 1 (most unequal), was .23. In contrast, in

the control condition, the bottom 50% earned 21% of gains, the next 30% earned 44% of gains, and the top 20% earned 36% of gains. The Gini index in this condition was much higher at .38.

Overall, Study 2 provides evidence consistent with Hypothesis 1 and suggests that mindfulness leads to more cooperation in distributive negotiations in that dyads that engaged in a brief mindfulness practice before the negotiation reached more equal agreements than control dyads. A limitation of this study was the relatively small sample size which raises concerns as to the replicability of the results. While the smaller sample was partly due to analyses being conducted at the dyad level, in the following studies we sought to significantly increase the sample sizes. Another limitation of Study 2 is that it was a purely distributive negotiation. To examine the effect of mindfulness on cooperation in integrative negotiations and test Hypothesis 1, we conducted Study 3. Integrative negotiation situations differ from distributive ones in the possibility of enlarging the bargaining surplus through creative strategies such as trading off on different preferences. Doing so can lead to win-win, pareto-optimal agreements that maximize joint gains (Pareto, 1963; Raiffa, 1982). Thus, in such negotiation situations, cooperation manifests as greater likelihood of achieving win-win agreements that increase joint gains (Van Lange, 1999). A classic example of a cooperative agreement is the splitting of a whole orange between two parties of whom one desires the rind and the other the juice; cutting the orange into two halves (equal sharing) is suboptimal here and the win-win solution is to give each party what it desires (the entire rind and the entire juice, Fisher et al., 2011).

STUDY 3

Methods

Participants, Design, and Procedure

Two hundred and four undergraduate students (77 male, 122 female, $M_{age} = 20.56$, SD_{age}

= 1.42, 5 did not provide demographic information) at a Singaporean business school

participated in exchange for partial course credit. Participants arrived at the lab and were told

they would listen to an audio guided task and engage in a negotiation task with another student.

Participants were randomly assigned to roles and dyads, and dyads were randomly assigned to

either an audio guided mindfulness or control condition. After they listened to the audio guided

task, participants responded to manipulation check questions and prepared for the negotiation.

Manipulation and Measures

Mindfulness. We used the same manipulation for mindfulness ($n = 104$) and control

(mind wandering) conditions ($n = 100$) as in Study 1b.[4]

Cooperation. Following Van Lange (1999), we operationalized cooperation in this

integrative negotiation as whether dyads reached pareto-optimal win-win agreements that

maximized joint outcomes. In the negotiation (adapted from the Kukui Nuts exercise; Kopelman

& Berkel, 2012), parties negotiated on behalf of their companies over the allocation of 3000

kukui nuts. Both parties sought to obtain the maximum number of nuts. However, whereas one

party required the shell, the other required the water from the nut. Thus, reaching a win-win

agreement required negotiators to not only realize that they required different components of the

nut, but also to reach an integrative agreement giving the desired parts of all 3000 nuts to each

party (rather than, say, giving each party 1500 entire nuts). The dependent variable was thus a

binary measure of whether a dyad reached a win-win agreement (coded as 1) or not (coded as 0).

Manipulation check. After listening to the audio, participants completed the same

manipulation check questions as in Study 1b, $\alpha = .79$. Mindfulness scores in the mindfulness

condition were significantly higher ($M = 3.20$, $SD = .71$) than in the control condition ($M = 2.38$,

$SD = .67$), $F(1, 202) = 72.59$, $p < .001$, indicating that the manipulation was successful.

Results and Discussion

To test Hypothesis 1, we conducted a chi-square test. The analysis revealed that mindful dyads were more likely to reach win-win agreements ($n = 11$ out of 52 dyads, or 21.2%) than dyads in the control condition ($n = 3$ out of 50 dyads, or 6.0%), χ^2 (1, $N = 102$) = 4.94, $p < .05$. To capture the size of this effect we calculated an odds-ratio, as described in Study 2. The odds-ratio was 3.53, meaning mindful dyads were over three times more likely to reach an integrative agreement than control condition dyads.

Overall, the results are consistent with Hypothesis 1 and suggest that mindfulness facilitates cooperation in integrative negotiations. As a caveat, we note that overall, only 14 dyads (13.7%) managed to reach a win-win agreement, showing that it was not trivial for negotiators to find and mutually agree on this solution. Along those lines, mindfulness did by no means guarantee cooperation, as the majority of dyads (78.2%) in this condition did not reach win-win agreements (this percentage was, of course, even higher in the control condition). This finding cautions against a view of mindfulness as a panacea and supports a more realistic view of mindfulness as having important, yet limited, benefits. Having said that, it can be considered impressive that the brief mindfulness induction had any effect at all on the win-win agreements negotiators reached at the end of their dynamic negotiations.

A limitation of Study 3 is that the measure of cooperation was dichotomous: either dyads reached the integrative, win-win solution, or they did not. Thus, in Study 4, we used a negotiation simulation that allowed for a continuous measure of joint gain to ensure that the findings of Study 3 are not limited to all-or-nothing, insight-driven integrative agreements. In addition, Study 4 tested Hypothesis 2, that the effect of mindfulness on cooperation is mediated through processes of self-transcendence, self-regulation, and self-awareness.

STUDY 4

Methods

Participants, Design, and Procedure

To plan our sample size, we used G*Power (Erdfelder et al., 1996) to conduct a power analysis. Our goal was to obtain .90 power to detect an effect size of .59 at the standard .05 alpha level. We set the effect size as the average of the two effect sizes observed in the parametric tests of Study 1b (Cohen's d = 0.27) and Study 2 (Cohen's d = 0.90). The computed sample size from G*Power was 128 (64 per condition). As our unit of analysis is the dyad, this amounts to 256 participants. Given this is the minimum required sample size, we targeted to recruit at least 400 participants, to account for potential attrition given that we conducted this study entirely online.[5]

We recruited 423 paid participants through Prolific, a widely used participant source that has shown to provide data of at least comparable quality to other sources (Palan & Schitter, 2018). Participants were randomly assigned to the mindfulness or control condition, as well as their role. They either engaged in a mindfulness practice or not (depending on condition), prepared for the negotiation, and were paired up randomly with another participant in the same condition. This was done via an embedded chat platform *chatplat.com* (Huang et al., 2017; Wolf et al., 2016). Dyads negotiated via chat and, when done, ended the chat and filled up the agreement sheet as well as other measures.

We excluded participants who did not manage to connect with a partner on the chat (*n* = 39) or who connected with a partner who did not chat (*n* = 2), as there were no negotiations. We also excluded dyads for which at least one negotiator's survey data was missing (*n* = 3). Due to technological issues of connecting to the chat we had some cases where participants managed to

connect with two different counterparts and thus were potentially part of two dyads. When a

participant belonged to two dyads, in such cases, we had to decide which dyad to keep. First, we

checked the agreement elicited on the two different dyads' chats. Second, we checked the

agreements reported by the double dyad membership participants affected for congruence. If

there was congruence between two parties' self-reported agreements with the agreement on the

chat, then that was the dyad we preserved for analysis. It was always possible to distinguish dyad

membership based on final agreements entered and thus which dyad to keep for analysis. We

retained 8 dyads and discarded 8 dyads that did not match the agreements reported. The final

sample consisted of 372 participants (168 male, 203 female, 1 prefer not to disclose, $M_{age} =$

33.66, $SD_{age} = 10.70$), totaling 186 dyads.

Manipulation, Materials, and Measures

Manipulation. Participants in the mindfulness condition completed an 8-minute guided

meditation before reading the negotiation materials and a 1-minute booster practice after the

preparation (see Berry et al., 2018, for mindfulness booster practices). The mindfulness induction

was adapted from the literature (Arch & Craske, 2006; Kabat-Zinn, 2003; Young, 2016) and

guided participants to bring the attention to their present moment experiences with respect to

their bodily sensations, emotions, thoughts and action impulses, to focus on their breathing and

finally, to return their awareness to the room and the negotiation they were about to conduct

while acknowledging how they now felt in their body and mind. The short booster (1-min) after

preparation and immediately before the negotiation was an abridged version of the induction in

which individuals silently observed their bodily sensations, emotions, thoughts and action

impulses, and took a few mindful breaths. Participants in the control condition proceeded

immediately to the negotiation materials. While this control did not match the mindfulness

condition in duration (unlike in our other studies) it has high external validity as this is what negotiators would normally do.

Cooperation. Following previous work (Schroeder et al., 2019; Van Lange, 1999), we operationalized cooperation as the total number of points achieved by a dyad in the negotiation. In this negotiation, joint gains could range from 0 (no agreement) to 1,460 (pareto-optimal agreement). We used the Vacation Plans negotiation (Thompson & DeHarpport, n.d.), which contains five separate issues relating to the holiday plans of two individuals (e.g., location, hotel). Of the five issues two are distributive (i.e., payoffs were opposite), one compatible (i.e., payoffs were aligned), and two integrative (i.e., negotiators had to trade off against each other to maximize joint gains). The points schedule was such that participants individually could earn a maximum of 1,120. These points mattered financially: individuals who did not reach an agreement on all five issues would receive no bonus, and individuals who reached an agreement would earn £1.00 for every 1,000 points they obtained for themselves.

S-ART. We used two approaches to measure self-awareness, self-regulation, and self-transcendence (S-ART). First, participants self-reported S-ART after the negotiation. Second, out of concern about confounds in self ratings, 6 trained research assistants rated S-ART on the basis of the negotiation chats. Such third-party ratings have been effectively used in negotiation research to avoid limitations of post-interaction self reports that potentially confound outcomes and processes (e.g., Gibson et al., 2000; Groves et al., 2015; Kray et al., 2004).

For self-reported S-ART, participants completed a scale developed for this study based on Vago and Silbersweig (2012). This scale was first validated in a sample of 246 participants (163 male, 83 female, $M_{age} = 37.32$, $SD_{age} = 11.15$) in which it showed a factor structure consistent with the three-dimensional S-ART framework ($\chi^2 = 106.48$; $\chi^2/df = 2.60$; RMSEA

= .08; SRMR= .046; TLI = .0.93; CFI = .0.95). We used the final scale consisting of 4 items for

self-transcendence (α = .90 for scale validation sample; α = .82 for study 4 sample), 4 items for

self-regulation (α = .81 for scale validation sample; α = .75 for study 4 sample), and 3 items for

self-awareness (α = .70 for scale validation sample; α = .68 for study 4 sample). As our analyses

were at the dyad level, all scores were aggregated to that level. The full list of items is provided

in the Appendix. Findings from our main study (i.e., Study 4) further substantiated the validity of

the SART in negotiation scale. A confirmatory factor analysis (same as the one conducted in our

scale validation study) showed good model fit (χ^2 = 228.25; χ^2/df = 5.56; RMSEA = .11;

SRMR= .081; TLI = .0.82; CFI = .0.87).

For third-party rated S-ART, we trained research assistants to rate the negotiation chats.

Because the negotiations were conducted via text-based chat, the negotiation transcripts capture

the entire negotiation interaction and constitute the complete data on the communication between

negotiators. To ensure a high degree of validity of the third-party ratings, we utilized a consensus

rating approach that has been shown in studies to provide incremental validity beyond the

aggregation method of individual ratings (Kleiman et al., 1987; Pulakos et al., 1996). The

approach requires raters to deliberate their ratings together through careful examination of the

rich contextual and nuanced information of the chats, thereby creating a strong shared

understanding of their respectively assigned dimension of S-ART (Kirkman et al., 2001).

Chats were logged as participants interacted and transcripts were automatically generated

by the ChatPlat program. Six research assistants who were blind to the a) research hypotheses, b)

study conditions, and c) points schedule were split into three pairs and each pair was assigned to

one of the three S-ART dimensions; this was done to separate raters from ratings dimensions and

avoid confounding the dimension ratings with each other. Raters were given the respective items

used in the self-report measure, as well as all the transcripts of each negotiation dyad for rating. The three pairs of raters were trained separately by one of the authors, thus each pair of research assistants were blind to the definitions of the other dimensions they were not assigned to.

The raters first read 20 negotiation transcripts (drawn from both conditions) over 2 rounds of practice. They rated each chat to the extent that each negotiator in the dyad exhibited the respective S-ART dimension on a 7-point scale (1 = not at all, 7 = completely). Therefore, each rater generated two ratings per negotiation transcript, one rating for each negotiator. Within each pair, raters' independent ratings (i.e., before discussion and resolution) were highly correlated (all rs > .66, all ps < .001). As per the consensus ratings approach described above, they then convened to discuss and reach a final consensus rating on any major differences (i.e., scores that were more than 1 point apart). After this initial period, the raters then proceeded to independently rate the remaining 166 transcripts, after which they convened again to discuss and reach a consensus rating on any scores that showed major differences. For robustness, we report that results using ratings before and after resolving discrepancies remain essentially the same. For chat examples to illustrate low and high levels of S-ART, see Table 4.

Manipulation check. All participants completed the same manipulation check as in Study 2, except the items were anchored to "in the last few minutes" (α = .89). Participants filled in the manipulation check before reading the negotiation materials – for the mindfulness condition this was immediately after the mindfulness practice. As expected, scores were higher in the mindfulness condition ($M = 3.42$, $SD = .75$) than in the control condition ($M = 2.67$, $SD = .76$) $F(1, 370) = 90.22$, $p < .001$, $\eta^2 = 0.20$.

Results and Discussion

Cooperation. We first examined the experimental effect of the mindfulness manipulation

on cooperation. Consistent with Hypothesis 1, mindful dyads ($M = 1278.02$, $SD = 346.29$)

achieved significantly greater joint gains than control condition dyads ($M = 1152.11$, $SD =$

501.77), $F(1, 184) = 3.93$, $p < .05$, $\eta^2 = 0.02$.

Mediation. We next examined the mediation Hypotheses 2a, 2b, and 2c by testing each

of the three dimensions of S-ART as individual mediators. Subsequently, although not

hypothesized, we were interested in which of the three dimensions is driving the effect of

mindfulness on cooperation: self-transcendence, self-regulation, self-awareness, or a

combination. To do so, we conducted parallel mediation analyses. We conducted all indirect

effects analyses with structural equation modeling using the MEDSEM package in STATA

(following recommendations of Yzerbyt et al., 2018, we report all indirect effects based on the

Monte Carlo method). See Tables 5 and 6 for regression results.

For self-transcendence, consistent with H2a, negotiators in the mindfulness condition

self-reported higher levels ($M = 5.52$, $SD = .76$) than those in the control condition ($M = 5.29$, SD

$= .88$) and this difference approached significance in the predicted direction, $F(1, 184) = 3.39$, p

$< .10$, $\eta^2 = 0.02$. Similarly, third-party ratings were significantly higher in the mindfulness

condition ($M = 5.39$, $SD = 1.48$) than in the control condition ($M = 4.36$, $SD = 1.75$), $F(1, 184)$

$= 18.98$, $p < .001$, $\eta^2 = 0.09$. Further consistent with H2a, we found a positive relationship

between self-transcendence and joint gains (with condition entered as a predictor), both for self

ratings ($B = 154.41$, $SE = 37.27$, $p < .001$, 95% CI [80.87, 227.95]) and for third-party ratings (B

$= 121.64$, $SE = 17.59$, $p < .001$, 95% CI [86.94, 156.34]). Finally, the indirect effect of the

mindfulness manipulation on joint gains via self-reported self-transcendence was positive (33.89,

$SE = 20.76$) and approaching significance, $p < .10$, 95% CI [-1.75, 79.13]). Similarly, for third-

party ratings of self-transcendence, the indirect effect was significant (125.36, SE = 34.21, p

< .001, 95% *CI* [63.08, 197.66]).

For self-regulation, negotiators in the mindfulness condition did not self-report significantly higher levels (*M* = 5.40, *SD* = .70) than those in the control condition (*M* = 5.35, *SD* = .68), *F*(1, 184) = 0.31, *p* = .58. In contrast, third-party ratings were higher in the mindfulness condition (*M* = 5.37, *SD* = .86) than in the control condition (*M* = 5.06, *SD* = 1.12), *F*(1, 184) = 4.70, *p* < .05, η^2 = 0.02. Further, we found a positive relationship between self-regulation and joint gains (with condition entered as a predictor), approaching significance for self ratings (B = 89.57, SE = 45.84, *p* < .10, 95% CI [-0.87, 180.01]) and significant for third-party ratings (B = 157.71, SE = 29.75, p < .001, 95% CI [99.01, 216.41]). Finally, the indirect effect of the mindfulness manipulation on joint gains via self-reported self-regulation was not significant (4.89, *SE* = 10.55, *p* < .10, 95% *CI*[-14.32, 28.61]). However, for third-party ratings of self-regulation, the indirect effect was significant (49.79, *SE* = 25.28, *p* < .05, 95% *CI* [4.58, 104.00]).

--- Insert Tables 4, 5, and 6 around here ---

Inconsistent with H2c, no effect of the mindfulness manipulation was found on self-awareness for both self report (mindfulness, *M* = 5.73, *SD* = .68; control, *M* = 5.67, *SD* = .66, *F*(1, 184) = 0.35, p = .55) and third-party ratings (*M* = 3.66, *SD* = .89; control condition, *M* = 3.81, *SD* = 1.00, *F*(1, 184) = 1.18, *p* = .28). We did find a positive relationship between self-awareness and joint gains (with condition entered as a predictor) for self ratings (B = 157.67, SE = 46.09, p < .001, 95% CI [66.73, 248.62]) and for third-party ratings (B = 132.62, SE = 32.35, p < .001, 95% CI [68.79, 196.44]). However, both indirect effects for self report (8.97, *SE* = 16.39, *p* = .58, 95% *CI*[-21.69 , 43.44]) and third-party ratings (-20.34, *SE* = 19.49, *p* = .30, 95% *CI*[-62.24 , 14.83]) were not significant.

Finally, we repeated the mediation analyses including all three dimensions of self-transcendence, self-regulation, and self-awareness as parallel mediators. For self-reports, with mindfulness, self-transcendence, self-regulation, and self-awareness entered as predictors, only self-transcendence was significantly related to joint gain ($B = 122.64$, $SE = 40.18$, $p < .01$, 95% CI [43.90, 201.38]). The indirect effect for self-transcendence, while in the expected direction, was not quite significant (26.91, $SE = 17.93.05$, $p = .13$, 95% CI [-1.58, 67.47]); neither were the indirect effects of self-regulation (2.80, $SE = 7.51$, $p = .71$, 95% CI [-10.50, 20.95]), and self-awareness (4.50, $SE = 9.87$, $p = .65$, 95% CI [-13.15, 27.41]).

For third-party ratings, with mindfulness, self-transcendence, self-regulation, and self-awareness entered as predictors, again only self-transcendence was significantly related to joint gain ($B = 95.96$, $SE = 22.05$, $p < .001$, 95% CI [52.75, 139.17]). Moreover, the indirect effect of the mindfulness manipulation on joint gain through self-transcendence was significant (98.87, $SE = 32.69$, $p < .01$, 95% CI [42.70, 169.31]). In contrast, the indirect effects for self-regulation (13.13, $SE = 14.99$, $p = .38$, 95% CI [-11.95, 47.96]) and self-awareness (-6.22, $SE = 9.23$, $p = .50$, 95% CI [-28.95, 7.94]) were not significant. The ratio of the indirect effect of self-transcendence to the total effect was 0.83, indicating that more than 80% of the effect of the mindfulness manipulation on joint gain was mediated by self-transcendence.

Additional Analyses. Joint gain was the primary measure of cooperation in integrative negotiations. However, given that in Study 2 we found that mindfulness led to more equally distributed outcomes in a distributive negotiation, we examined whether mindful dyads in this study also distributed points more equally for distributive issues than control dyads. Unlike Study 2, we found no significant effect of condition on equal sharing, $F(1, 184) = 1.29$, $p = .26$. Our speculative explanation for this null effect is the complexity of this negotiation with five

issues (2 distributive, 2 integrative, and 1 compatible) compared to Study 2 which had a single distributive issue. This reduced the power to detect any effect on equality of point distribution. In addition, the possibility for integrative (win-win solutions) in the negotiation could have led mindful dyads to focus on cooperating to optimize this outcome. Thus, a tentative conclusion is that the effect of mindfulness on equality of outcome distributions may not be generalizable to more complex, mixed-motive negotiations. Instead, it may be limited to simpler, clearly distributive negotiations, perhaps because in these fixed-sum negotiations, the issue of value distribution is particularly salient (whereas in mixed-motive negotiations, both value distribution and value creation are important), thus pointing to a potential boundary condition of the effects of mindfulness on distributive cooperation.

Discussion. Overall, Study 4 provided considerable support for Hypotheses 1 and 2a. The experimental manipulation of mindfulness once again increased cooperation – this time in the form of win-win agreements that provide higher joint gains in integrative negotiations. All three S-ART dimensions significantly predicted joint gains, both using self and third-party ratings. However, only self-transcendence mediated the experimental effect on joint gains in both individual and parallel mediation analyses (and especially when rated by third-party raters blind to the hypotheses, experimental condition, and point schedule, providing a relatively objective assessment, as compared to post-negotiation self-reports). Though we found that third-party ratings of self-regulation mediated the effect of mindfulness on joint gains when analyzed as an individual mediator, this indirect effect was non-significant in the parallel mediation with self-awareness and self-transcendence. We found no support for self-awareness mediating the experimental effect on joint gains. Finally, these results conceptually replicate and extend our previous results, finding that mindfulness increases cooperation in a non-student and non-South

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East Asian sample, using incentives and a new negotiation medium (i.e., text-based chat).

GENERAL DISCUSSION

Negotiators' failure to cooperate can lead to costly, and sometimes dramatic, consequences, as illustrated by the 2018-2019 US government shutdown causing weeks without pay for government employees and major disruptions to government-run programs (Zaveri et al., 2019). Such negative effects are, of course, not limited to the political domain but are also common in business. For example, a lack of cooperation in labor-management negotiations at Air France-KLM led to a 15-day strike which cost the airline $380 million and led to a 36% drop in share price and the resignation of the CEO (Meijer & Kar-Gupta, 2018).

Against this backdrop, our primary purpose was to examine the hypothesis that mindfulness increases cooperation in negotiations. Across five studies, we found considerable support for this hypothesis when looking at both individual-level cooperative orientation and dyad-level cooperative agreements in both distributive and integrative negotiations. Studies 1a and 1b found that more mindful negotiators, measured at the state level and manipulated experimentally, were more oriented towards cooperation. Study 2 then found that, in the context of a distributive buyer-seller price negotiation, that mindfulness increased cooperation such that equal sharing agreements were over 3 times more likely in the mindfulness condition than in the control condition, and perfectly unequal agreements only occurred in the control condition. Study 3 showed that, in the context of an integrative negotiation situation, mindful dyads were significantly more likely (about 3.5 times more) to reach win-win, pareto-optimal agreements. Finally, in Study 4 mindful dyads reached greater joint gains in a more complex integrative negotiation and self-transcendence mediated this effect.

The present research makes a number of contributions to the cooperation, negotiation,

and mindfulness literatures. Answers to the question why negotiators do or do not cooperate have often looked at external factors such as incentives (e.g., Balliet et al., 2011) or culture (e.g., Gächter & Herrmann, 2008; Wong & Hong, 2005). Moreover, research on internal factors has typically focused on individual negotiators' cognitive biases (Thompson, Nadler, & Lount Jr, 2006) or emotions (e.g., Fessler & Haley, 2003). In contrast, the present studies shed light on the importance of negotiators' attention in facilitating cooperation. Moreover, this research highlights not only attention as an underlying causal factor in cooperation, but also suggests self-transcendence as a mediator, thereby building a bridge from attention to cooperation. Specifically, according to the S-ART framework (Vago & Silbersweig, 2012), self-transcendence is facilitated through the regulation of attention away from self-relevant information, thus reducing individual's tendency towards egocentrism (Bargh, 1982). In so doing, our research extends a small literature on the role of attention (Shteynberg, 2015) and mindfulness (Kirk et al., 2016) in cooperation. Notably, whereas past studies have tended to examine mindfulness in individual decisions, such as reduced sunk cost bias (Hafenbrack et al., 2014), the present research focuses on dynamic, behavioral and mixed-motive interactions. By shedding light on the attentional micro-foundations of cooperation, we hope to encourage more research in this area.

The present studies also inform and deepen our understanding of the role of mindfulness in negotiations. Previous work in this field has examined the role of individual-level mindfulness on distributive negotiation outcomes. Specifically, Reb and Narayanan (2014) found that when mindful individuals were paired with less mindful counterparts in distributive single-issue price negotiations, they claimed significantly more of the fixed bargaining zone. This finding suggests that mindfulness leads to more value claiming in distributive negotiations. However, when we

investigated the effects of dyad-level mindfulness on distributive negotiations, as seen in Study 2, we observed a different effect: Mindful dyads reached more equal-sharing agreements. Taken together, these results suggest that mindful negotiators are not invariably cooperative. Instead, they are sensitive to their counterpart and regulate their behavior accordingly. The juxtaposition of the present findings and those of Reb and Narayanan (2014) highlights the importance for future research to further explore the individual-level and dyad-level effects of mindfulness, as well as to look at compositional effects (i.e., whether one or both negotiators are mindful).

Related, our research makes valuable contributions to the growing literature on the interpersonal effects of mindfulness. An important, yet still poorly addressed question is whether the substantial benefits of mindfulness shown at the individual level extends to the interpersonal level. A recent meta-analysis suggests that mindfulness is associated with more prosocial behavior (Luberto et al., 2018). However, given important differences between the constructs, it was not clear whether this finding would hold for cooperation. Also, whereas past studies on mindfulness and prosocial behavior were conducted mostly on situations without conflicting interests between the parties involved, we examined mixed-motive situations, which make cooperation more challenging. Therefore, it is both noteworthy and encouraging that mindfulness increased cooperation even in such challenging environments. Future research could examine whether mindfulness facilitates cooperation even in environments with protracted conflicts and disputes.

Moreover, by situating our research within the overarching S-ART framework (Vago & Silbersweig, 2012), we answer calls to consider how different mindfulness processes operate in interpersonal contexts (Creswell, 2017). Integrating this framework with negotiation research, we found evidence that all three processes were related to joint gains. Interestingly, however,

only self-transcendence acted as mediating mechanism for the positive effect of the experimental

mindfulness induction on cooperation. Thus, it could be that self-awareness, self-regulation, and

self-transcendence are all helpful in achieving win-win agreements but that a short mindfulness

induction as used in Study 4 is particularly effective in increasing self-transcendence. More

broadly, by introducing the S-ART framework to the interpersonal negotiation setting, a platform

is set for researchers to examine the role of self-transcendence, self-regulation, and self-

awareness in other interpersonal relationships in the workplace, such as leader-employee or

employee-customer interactions. Such research could also build from a rich literature on the

neuroscience of mindfulness (see Tang, Hölzel, & Posner, 2015) and answer calls to integrate

neurological approaches into the management sciences (e.g., Becker, Cropanzano, & Sanfey,

2011; Lindebaum, 2016).

Strengths, Limitations, and Future Research

The current research should be considered in light of its strengths and limitations. A

strength of the present studies is the consistency of the main finding that mindfulness facilitates

cooperation across different forms of cooperation, different negotiation situations and using

different operationalizations of mindfulness. While our approach prevented the direct replication

of specific effects, it allowed for repeated conceptual replications. Also, most studies used an

experimental approach, establishing the causal relationship between mindfulness and cooperation

with strong internal validity. Moreover, in an attempt to increase practical utility, we focused on

the effect of brief inductions of state mindfulness that are easier to implement in real-life

settings. Our findings suggest that such inductions can help even without much prior experience

with mindfulness practices or with negotiations, potentially increasing the generalizability and

practical value of this research. Having said that, future research could examine the effects of

longer-term mindfulness practice on cooperation in negotiations, conflicts, and disputes. Further, scholars could examine the impacts of mindfulness states that emerge separately from meditation, e.g., through metacognitive beliefs (Reina & Kudesia, 2020) or supervisor support (Reb et al., 2015), which could also promote cooperation. Finally, future research needs to further investigate the role of mindfulness at the dyadic level, as in the present research, versus at the individual level (as in Reb & Narayanan, 2014).

We also acknowledge that our studies examined negotiation simulations, rather than real negotiations, and several studies utilized student participants. While such an approach is common in negotiation research, it raises questions about the generalizability of the findings. To at least partly address these concerns, in Study 4 we recruited working adult participants and provided financial incentives based on individual performance in the negotiation (up to 25% on top of base compensation). Moreover, Study 4 employed UK participants in a chat-based negotiation and provided some evidence of generalizability across cultures and communication channels. Still, future research should examine the role of mindfulness in real-world negotiations across a more diverse range of cultures, incentive structures, and communication channels, examining whether these variables act as moderators for the benefits of mindfulness in negotiations. Mindfulness may enhance identity shifts of individuals to transcend across racial lines as a result of repeated contact with diverse others (Nai, Narayanan, Hernandez & Savani, 2018).

Practical Implications

The current findings inform the practical applications of mindfulness. Given the growing interest in mindfulness practices for the workplace, it becomes important that management scholars can better understand how these practices can be best utilized. The current research

provides evidence that mindfulness practices before negotiations are of benefit at both the individual-level and dyad-level. From an individual perspective, whether one wants to maximize individual gains (Reb & Narayanan, 2014) or reach cooperative agreements, negotiators should benefit from a short mindfulness practice before starting the negotiation. Moreover, negotiators should try to motivate their counterparts to likewise engage in a mindfulness practice – perhaps even practicing together – to reap the full benefits.

More broadly, our research suggests the use of mindfulness practice as a novel approach to facilitate cooperation in negotiations and informs practitioners on what sort of mindfulness practices are effective. Across the studies three different mindfulness practices were used, all eliciting similar effects. This demonstrates that there is a degree of flexibility in how negotiators can apply mindfulness practice. These studies also suggest a surprisingly low dosage of practice required to elicit significant – albeit most likely short-term – effects, as positive effects on cooperation were observed after just 3-minutes of self-guided practice (Study 2).

Overall, the present research found that by facilitating collective processes of self-awareness, self-regulation, and self-transcendence, mindfulness helps increase cooperation in negotiations. This suggest that an effective and mutually beneficial way to use the time immediately before a negotiation – after all the negotiation planning has been done – is for both sides to let go and allow the mind to enter a state of mindfulness.

Endnotes

1   The experimental paradigm required a series of text responses or phrases. Of the two

excluded participants, one gave blank responses and the other filled in random numbers. The

main results remain unchanged when including these two participants and coding their responses

as recalling none of the heuristics. The results are available upon request from the first author.

2   Similarly, three ANCOVAs were conducted to examine the effect of condition on

incorrectly recalled heuristics (cooperative, competitive and neutral), controlling for total

incorrect heuristics recalled. No significant differences between conditions were found.

3   As a robustness check we also ran the analyses including the two dyads that reached an

agreement below the reservation point and the main findings held.

4   The mindfulness manipulation was crossed with an orientation manipulation (cooperative

or individualistic) in the form of additional preparation instructions for a 2 x 2 factorial design.

We included this orientation manipulation in order to examine the generalizability of any effect

of mindfulness on cooperation across different orientations. We manipulated orientation using

the experimental paradigm of Carnevale and Lawler (1986). However, we found no effect of

orientation on cooperation, and no interaction with the mindfulness manipulation. Therefore, we

collapsed across this factor and report results only for the mindfulness manipulation. Additional

results are available upon request from the corresponding author.

5   Due to the pandemic, face-to-face negotiation was not possible.

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Appendix

Items for S-ART in Negotiation Scale

Self-Awareness:
1. I approached the negotiation in an open, curious manner
2. I took a step back and looked at the negotiation from a broader perspective
3. I expanded from a narrow view of the negotiation and thought more broadly about how to achieve the best outcome

Self-Regulation:
1. I regulated my behavior to match what was required in the negotiation
2. I regulated my impulses and actions to help the negotiation run smoothly
3. I altered my emotions to ensure I achieve my objectives during the negotiation
4. I adapted my behavior to further my goals during the negotiation

Self-Transcendence:
1. I thought not only about myself but also about how the negotiation would work out for my counterpart
2. I approached the negotiation as about both of us together, not just about myself
3. I thought of "us" as a dyad rather than just me during the negotiation
4. I was concerned about how both of us did as a dyad during the negotiation

Figure 1

Average Correct Heuristics Recalled, Depending on Condition, Study 1b
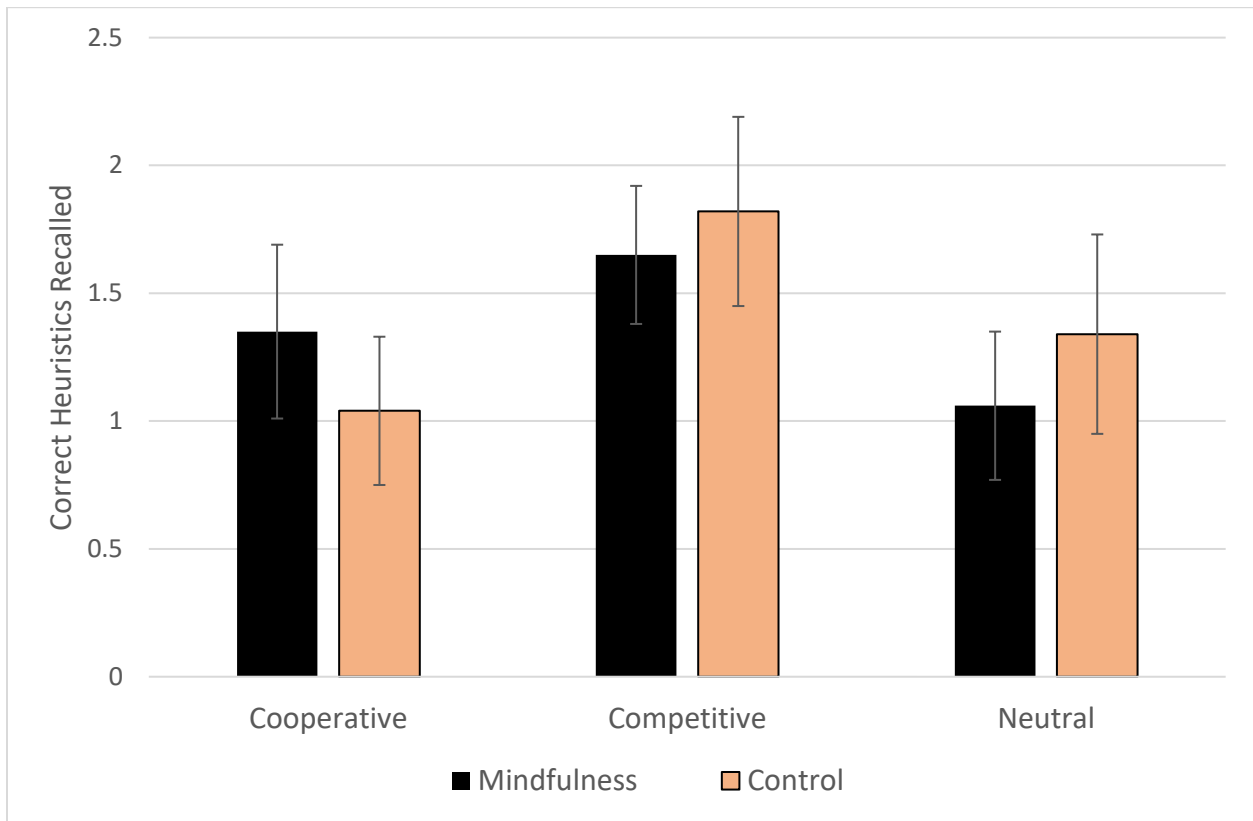
Note. Error bars indicate 95% confidence intervals.

Figure 2

Payoff Structure of the Negotiation, Study 2
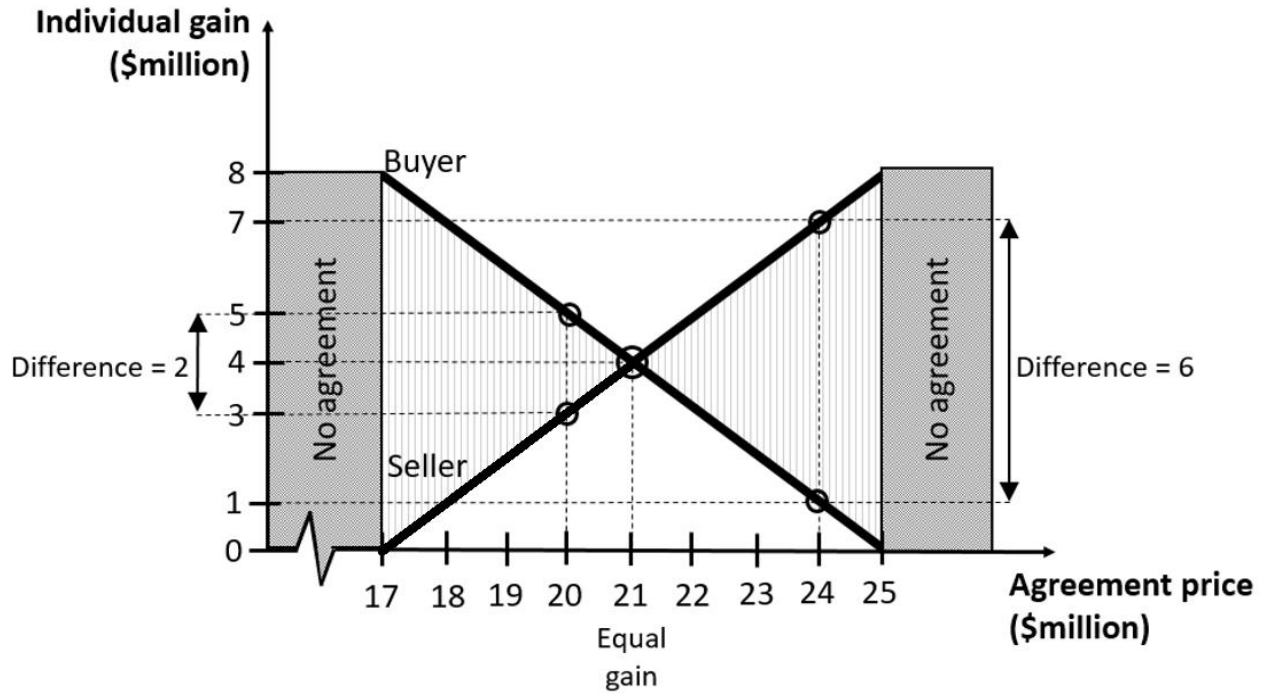
Figure 3

Lorenz Curves for Agreements, Depending on Condition, Study 2

Note. The equality line indicates the baseline if all dyads were to have perfectly equal

distribution of gains in the entire sample i.e., zero inequality. The further below this line, the

more unequal the actual distribution of agreements.

Table 1: Means, Standard Deviations, Scale Reliabilities, and Correlations of Study Variables, Study 1a

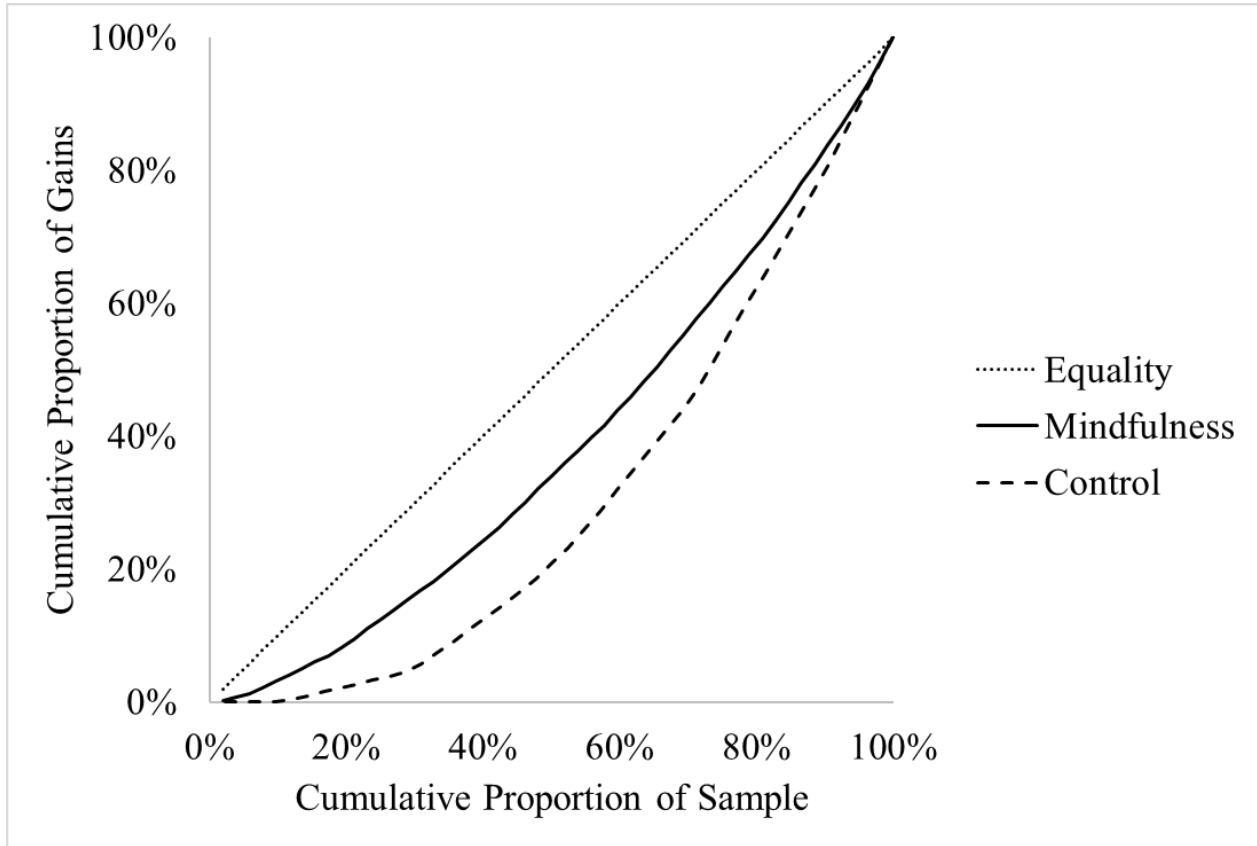|	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Gender[a]	0.58	0.50	(-)															
2. Age	20.82	1.44	-.61***	(-)														
3. Agreeableness	3.48	0.56	-.02	.12	(.77)													
4. Conscientiousness	3.18	0.59	-.17†	.20*	.01	(.80)												
5. Neuroticism	2.97	0.65	.43***	-.31**	-.33**	-.27**	(.81)											
6. Openness	3.46	0.61	-.09	.02	-.03	-.08	-.16	(.80)										
7. Extraversion	3.12	0.69	-.01	-.03	.09	.06	-.34***	.40***	(.86)									
8. Anxiety	1.58	0.70	.13	-.14	-.19†	-.24*	.23*	-.08	-.12	(.88)								
9. Empathy	2.08	0.88	.01	.01	.14	-.13	-.01	.14	.02	.19*	(.91)							
10. Distress	1.46	0.70	-.00	.05	-.21*	-.12	.17†	-.00	-.08	.52***	.34***	(.92)						
11. Rumination	3.26	0.78	.26**	-.29**	-.26**	-.35***	.33***	.11	-.02	.26**	-.04	.17†	(.84)					
12. Reflection	3.44	0.79	-.05	.03	-.05	-.04	-.06	.59***	.16	-.07	.13	.00	.14	(.87)				
13. Mindfulness	3.52	0.86	-.26**	.28**	.21*	.43***	-.31**	.06	.11	-.26**	-.01	-.18†	-.55***	-.07	(.88)			
14. Cooperative Orientation	4.71	3.88	-.12	.18†	.22*	-.12	-.19†	.05	.11	.02	.19†	-.03	-.13	-.10	.25*	(-)		
15. Individualistic Orientation	3.59	3.62	.05	-.08	-.19†	.16	.15	.04	-.12	-.01	-.21*	-.02	.15	.16	-.18†	-.87***	(-)	
16. Competitive Orientation	0.62	1.71	.12	-.17†	-.08	-.05	.11	-.17†	.09	.02	.08	.16	.01	-.09	-.16	-.35***	-.09	(-)

a. Male = 0, Female = 1.

Notes. N = 102. Scale reliabilities (Cronbach alphas) in parentheses.

*** p < .001, ** p < .01, * p < .05, † p < .10

Table 2: Regression Results with Cooperative, Individualistic and Competitive Orientation as Dependent Variables, Study 1a

Predictors	Cooperative Orientation			Individualistic Orientation			Competitive Orientation		
	B	*SE*	95%CI	*B*	*SE*	95%CI	*B*	*SE*	95%CI
(Constant)	-5.49	9.48	(-24.32, 13.34)	2.84	8.98	(-15.00, 20.69)	7.00	4.34	(-1.63, 15.63)
Gender	0.20	1.00	(-1.79, 2.20)	-0.21	0.95	(-2.10, 1.68)	-0.09	0.46	(-1.01, 0.82)
Age	0.42	0.33	(-0.23, 1.08)	-0.13	0.31	(-0.76, 0.49)	-0.20	0.15	(-0.50, 0.10)
Agreeableness	0.54	0.74	(-0.93, 2.02)	-0.34	0.70	(-1.74, 1.05)	-0.18	0.34	(-0.85, 0.50)
Conscientiousness	-1.71*	0.73	(-3.15, -0.26)	1.81*	0.69	(0.44, 3.17)	-0.02	0.33	(-0.69, 0.64)
Neuroticism	-0.67	0.75	(-2.15, 0.82)	0.56	0.71	(-0.84, 1.97)	0.22	0.34	(-0.46, 0.90)
Openness	0.20	0.83	(-1.45, 1.85)	0.43	0.79	(-1.13, 1.99)	-0.72†	0.38	(-1.48, 0.03)
Extraversion	0.34	0.62	(-0.90, 1.58)	-0.66	0.59	(-1.84, 0.52)	0.57†	0.29	(0.00, 1.14)
Anxiety	0.53	0.65	(-0.75, 1.82)	-0.04	0.61	(-1.26, 1.17)	-0.35	0.30	(-0.94, 0.24)
Empathy	0.76	0.47	(-0.16, 1.69)	-0.77†	0.44	(-1.64, 0.11)	0.13	0.21	(-0.29, 0.56)
Distress	-0.52	0.66	(-1.84, 0.80)	-0.02	0.63	(-1.26, 1.23)	0.48	0.30	(-0.12, 1.09)
Rumination	0.30	0.60	(-0.90, 1.49)	0.18	0.57	(-0.96, 1.31)	-0.27	0.28	(-0.82, 0.28)
Reflection	-0.71	0.59	(-1.88, 0.46)	0.70	0.56	(-0.41, 1.81)	0.05	0.27	(-0.49, 0.58)
Mindfulness (**H1**)	**1.36***	**0.56**	**(0.26, 2.47)**	-0.93†	0.53	(-1.98, 0.11)	-0.32	0.25	(-0.82, 0.19)
Adjusted R-squared		.11			.08			.03	

$* p < .05, † p < .10$

Table 3: Distribution of Agreements across Experimental Conditions, Study 2

		Equality of Agreement			
		Perfectly equal	Somewhat unequal	Perfectly unequal	Total
Condition	Control	1 (4.8%[a])	16 (76.2% [a])	4 (19.0% [a])	21
	Mindfulness	4 (15.4% [a])	22 (84.6% [a])	0 (0.0% [a])	26
	Total	5 (10.6% [b])	38 (80.9% [b])	4 (8.5% [b])	47

a. Percentage of condition

b. Percentage of total

Table 4: Examples of Negotiation Chat Behaviors Receiving Low and High Ratings of S-ART, Study 4

	Low Ratings	High Ratings
Self-transcendence **To what extent did the negotiator exhibit these behaviors?** 1. thought not only about themselves but also about how the negotiation would work out for their counterpart 2. approached the negotiation as about both of them together, not just about themselves 3. thought of "us" as a dyad rather than just themselves during the negotiation 4. was concerned about how both of them did as a dyad during the negotiation	**Example #1:** "*hi well i guess ill start by saying im very limited in when i can travel as i can only get time off in spring also anything other than air travel will make me sick. i wont be able to go otherwise because it just wont be worth it* well sadly for me i cannot go in spring at al and im only available in winter […] *again im not disagreeing with you but i will only travel by plane* […] *if we cant go in spring and by plane then i cant go at all* plane is awful for me, i have a fear of it and i cannot do it. it would just be awful for me […] *okay then looks like we wont be able to go together if its that bad for you*" **Example #2:** "erm I wouldnt agree the weather is better, and there is a lot more to do in the southeast, so better to do excursions to southwest rather than vice versa *No, I really don't want to stay in the SE. I would prefer to go to the NW, so I'm already making a compromise by going to the SW* […] well its not a comprimise if I didn't ask to go to SW […] *I'm not prepared to stay in the SE. Ok, so neither of us is going to be happy in the south*"	**Example #1:** "*ok, i will compromise on this :joy:* […] omg i love driving too but i thought that train would be easier, but i can see this is imoportant to you and since you compromised on starting point i shall compromise on the car issue.... i can leap out at random points to take photos then :heart_eyes: […] *Happy you said that, i can compromise on autumn* great so we are making progress *we'll get the best of both*" **Example #2:** "How about hotel rating next? I think having a more luxury hotel would make the holiday a more enjoyable experience, somewhere around the 3-4 star range. This is also to keep costs down as well *I understand your view and that sounds perfectly reasonable, would you agree on 3?* 3 sounds great to me. […] I see your point, however a train journey can be very long and stuffy which therefore impact the rest of the holiday as we immediately be put in a bad mood. Not to mention the very crowded area of being on a train, there is very little space to breathe and there is not much food either. How about the idea of a car. We can have plenty of fun in there, choose our own music and get to stop off at service stations at any point if we feel tired on the journey. Furthermore this will be very useful once we arrive there as we can take it around with us and reach different locations much faster. *I would be leaning more towards the idea of a Caravan, it would be far more spacious with a built-in living space to relax in aswell as a kitchen to make food to save the stops at the service station.* That sounds like a good idea, should we agree on that? *Yes that'd be perfect*"

Self-regulation **To what extent did the negotiator exhibit these behaviors?** 1. regulated their behavior to match what was required in the negotiation 2. regulated their impulses and actions to help the negotiation run smoothly 3. altered their emotions to ensure they achieve their objectives during the negotiation 4. adapted their behavior to further their goals during the negotiation	**Example #1:** "*you make no sense* […] I offered 3 different options on where to go. You've only offered north west even though I have said I can't go there. what are your other options then *ive already compromised 4 weeks to support your 3. it cant be all take take take* […] *nonsense*" **Example #2:** "*Well I'm not budging. You can't put a price tag on safety!* Neither can you not ignore the usual hotels! Safety is fine there, and 5 stars hotel is only going to make it more expensive *Will go agree with 4 star so we can move on! This is taking much longer than it should!* I've been to plenty 3 star hotels and they are fine! I vote 3 stars and that's the end of it! Or less... *Nope.* The best is One star but given that you're being ignorant like when we used to fight over my favourite toys, I can agree with two stars now. Consider my feelings, friend. Two stars or three stars, choose please *4!!* No! 3 stars. And/or less!!! *No sorry. So 4 stars for hotel then?* Middle, PLEASE. 3 STARS. And then we can move on . *No, you refused to agree on location and now you're being unreasonable about hotels*"	**Example #1:** "happy to do midlands *Yeah same!* […] would like to do air for this one then you can pick another one? *okay sure!* awesome […] *perfect!! Well that was easy* […] yes! Midlands, 3 star, Air, 3 weeks and winter. Sounds like an interesting holiday […] Great!! Well thanks for being easy to negotiate with" **Example #2:** "*Hi Alex, I'm so excited to plan this holiday with you* […] Let me hear your suggestion? *Personally I quite like the idea of heading north east. There's so much culture there that regularly gets ignored, and it's cheap too, which means we can afford to splash out a bit more on the hotel or activities we do!!* Nah - I live in the north east - would like to get away from where I live - well if it is not north west or north east - the I suggest the lake district midland or Dorset South West including of course all the cornwall and more south *That's understandable - sorry, I forgot about that. I'll have to come visit some time as a solo trip :)* Newquay has a good airport and is popular - shall we go for that - we still have a lot of detail to sort out *That sounds good, the flight would be very quick too, meaning we can enjoy more of our holiday exploring and making memories together.* […] *Yay, this holiday is starting to take shape!* […] I can agree - you sound like a very nice person and I would spend some time to make it a perfect holiday - agree with 3 weeks *That's great! So we'll be flying down to Newquay later in the summer. We'll book a 3* hotel which will be cheap enough to make up for the cost of the flights but comfortable for us to stay for 3 weeks :)* Looking forward - thanks!!"

| Self-awareness

To what extent did the negotiator exhibit these behaviors?

1. approached the negotiation in an open, curious manner

2. took a step back and looked at the negotiation from a broader perspective

3. expanded from a narrow view of the negotiation and thought more broadly about how to achieve the best outcome | **Example #1:**
"i really cant do spring at all
doesnt look like our timetables match either then
i was thinking summer as its a break. its the best for us and great weather too spring doesnt have the best of weather
sorry i cant do it
[…]
the hotels an important part of being comfortable when on holiday to me
i cant risk it
the whole holidays would be ruined if it was bad
3 stars is right in the middle, you cannot go wrong with it. if that ruins ur holiday then thats quite bad. a holiday should be based on exploring the outside.
3 stars isnt enopugh for me it too great a risk 5 stars are always perfect with no issues
what about 4 stars?
[…]
4 stars is still a risk 5 stars there is no risk at all"
Example #2:
"*3 star and autumn?*
4 star autumn and let's go
3 star and autumn or 4 start winter
4 star autumn or 5 star winter. your choice
4 star winter
4 star autumn
5 star winter
so do we have a deal on 4 star autumn?
5 star winter
or how about 5 star autumn?
5 star winter" | **Example #1:**
"*I was going to suggest car. Lots more freedom to visit different places once we're there*
I do find it a bit hot in Summer - later is better for me. Perhaps if went in Winter I would agree to going by car.
That's fine with me. At least I can put the heat on"

Example #2:
"*I would prefer somewhere in the west, either northwest or southwest, what about you?*
Hmm I was thinking more the east to be honest, north or east would be great!
[…]
Is that okay if we do south east? No worries if it's not
Southeast sounds great lets do it!*" |

Notes. Different font (regular vs. italics) denotes each counterpart in negotiation. All examples are from original, uncorrected (for spelling and grammar) chat transcripts. Left column provides S-ART definitions given to raters.

Table 5: Regression Table of Mindfulness and Self-Reported S-ART Dimensions on Joint Gains, Study 4

	Self-transcendence	Self-regulation	Self-awareness	Joint Gains	Joint Gains	Joint Gains	Joint Gains	Joint Gains
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Mindfulness (**H1**)	0.22†	0.06	0.06	**125.92***	91.69	120.86†	116.68†	91.17
	(0.12)	(0.10)	(0.10)	**(63.48)**	(61.42)	(63.05)	(61.77)	(60.97)
	[0.07]	[0.58]	[0.55]	**[0.05]**	[0.14]	[0.06]	[0.06]	[0.14]
Self-transcendence (**H2a**)					**154.41***			**122.64***
					(37.27)			**(40.73)**
					[0.00]			**[0.00]**
Self-regulation (**H2b**)						**89.57†**		**51.52**
						(45.84)		**(46.00)**
						[0.05]		**[0.26]**
Self-awareness (**H2c**)							**157.67***	**79.39**
							(46.09)	**(51.72)**
							[0.00]	**[0.13]**
Constant	5.29***	5.35***	5.67***	1,152.11***	334.75†	673.26*	258.63	-222.40
	(0.08)	(0.07)	(0.07)	(44.40)	(201.84)	(248.98)	(264.75)	(324.34)
	[0.00]	[0.00]	[0.00]	[0.00]	[0.10]	[0.01]	[0.33]	[0.49]
Adjusted R-squared	0.01	0.00	0.00	0.02	0.10	0.03	0.07	0.11

Notes. Mindfulness coded as 0 = control condition, 1 = mindfulness condition. Standard errors in parentheses, p values in square brackets, rounded up or down to two decimal points. N=186
*** p < .001, ** p < .01, * p < .05, † p < .10

Table 6: Regression Table of Mindfulness and Third-Party Rated S-ART Dimensions on Joint Gains, Study 4

	Self-transcendence	Self-regulation	Self-awareness	Joint Gains	Joint Gains	Joint Gains	Joint Gains	Joint Gains
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Mindfulness (**H1**)	1.03***	0.32*	-0.15	**125.92***	0.02	75.71	145.95*	19.46
	(0.24)	(0.15)	(0.14)	**(63.48)**	(59.52)	(60.01)	(61.11)	(60.73)
	[0.00]	[0.03]	[0.28]	**[0.05]**	[1.00]	[0.21]	[0.02]	[0.75]
Self-transcendence (**H2a**)					**121.64***			**95.96***
					(17.59)			**(22.35)**
					[0.00]			**[0.00]**
Self-regulation (**H2b**)						**157.71***		**41.69**
						(29.75)		**(39.04)**
						[0.00]		**[0.29]**
Self-awareness (**H2c**)							**132.62***	**40.55**
							(32.35)	**(35.84)**
							[0.00]	**[0.26]**
Constant	4.36***	5.06***	3.81***	1,152.11***	621.99***	354.84*	646.42***	368.53*
	(0.17)	(0.10)	(0.10)	(44.40)	(86.29)	(156.00)	(130.51)	(156.09)
	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.02]	[0.00]	[0.02]
Adjusted R-squared	0.09	0.02	0.00	0.02	0.22	0.14	0.09	0.22

Notes. Mindfulness coded as 0 = control condition, 1 = mindfulness condition. Standard errors in parentheses, p values in square brackets. N=186

*** p < .001, ** p < .01, * p < .05, † p < .10