Meh, whatever: the effects of indifference expressions on cooperation in social conflict

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Meh, Whatever:
The Effects of Indifference Expressions on Cooperation in Social Conflict

Smadar Cohen-Chen
University of Sussex, UK

Garrett L. Brady
London Business School, UK

Sebastiano Massaro
The Organizational Neuroscience Laboratory, UK;
University of Surrey, UK

Gerben A. van Kleef
University of Amsterdam, The Netherlands

Keywords: Social Conflict, Emotional Expressions, Indifference, Cooperation

Corresponding Author: Smadar Cohen-Chen, Sussex Business School, University of Sussex,
Falmer, Brighton BN1 9RH, United Kingdom. S.Cohen-Chen@sussex.ac.uk

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ABSTRACT
Conflicts are inherently emotional, yet parties in conflict may choose to explicitly express indifference. It is unclear, however, whether this represents an effective strategy. Drawing on emotions as social information (EASI) theory, we examined the interpersonal effects of indifference expressions in conflict and the processes that underlie these effects. Study 1 indicated that people believe indifference expressions constitute a neutral emotional signal. However, Study 2 demonstrated experimentally that counterparts’ indifference expressions reduce focal negotiators’ cooperative intentions through both affective (negative affective reactions) and inferential (decreased expected collaboration) processes when compared to negative (anger, contempt), positive (hope), and neutral (no emotion) expressions. Study 3 revealed negative effects of indifference (vs. neutral) expressions on cooperative intentions, expected collaboration, and heart rate variability as a physiological indicator of affective responding. Results further showed an indirect effect through expected collaboration, but not through affective reactions. Study 4 established the negative effects of indifference expressions on a behavioral measure of cooperation through expected collaboration. Studies 5 and 6 (pre-registered) demonstrated that the impact of indifference expressions on cooperative intentions (Study 5) and actual cooperation (Study 6) via counterpart’s expected collaboration is reduced when a counterpart explicitly indicates cooperative intentions, reducing the diagnostic value of indifference expressions. Across studies \(N = 2,447\), multiple expressive modalities of indifference were used, including verbal and non-verbal expressions. Findings demonstrate that explicit expressions of indifference have qualitatively different interpersonal effects than other emotional expressions, including neutral expressions, and cast doubt on the effectiveness of expressing indifference in negotiating social conflict.

Keywords: indifference, emotional expression, cooperation, conflict, dispute resolution
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Conflict is an endemic aspect of social life that pervades social interactions across all domains of society, from interpersonal quarrels to organizational disagreements to extreme forms of intergroup conflict (Kriesberg, 2003; Pruitt & Carnevale, 1993). It is therefore not surprising that conflict has since long occupied the interest of social scientists (e.g., Deutsch, 1949; Fisher, 1990; Sherif & Sherif, 1953; Tajfel & Turner, 1979). In the past few decades, this scholarship has increasingly pointed to the inherently emotional nature of conflicts (Kelman, 1997; Van Kleef & Côté, 2018). Conflicts not only elicit strong emotional reactions (Jarymowicz & Bar-Tal, 2006), but are often perpetuated and driven by the attitudinal and behavioral consequences of emotions (Cohen-Chen et al., 2020; de Rivera & Paez, 2007; Skitka et al., 2006). Given the inherently emotional nature of conflict, attempts at settling conflict through negotiation or dispute resolution also tend to be pervaded by emotions (Barry, 1999; Halperin, 2015; Lindner, 2006). Questions remain, however, regarding the overall impact of emotions – or conversely the lack of emotions – in driving the course of conflicts for better or for worse. Here, we investigate the effects of expressions of indifference on cooperation in non-close relationship conflicts.

A large body of research has documented how conflict trajectories and outcomes are shaped not only by emotional experiences but by emotional expressions (for a review, see Van Kleef & Côté, 2018). These effects are multifaceted yet systematic, such that each specific emotional expression is characterized by a unique combination of potential positive and negative repercussions. Expressions of anger in workplace conflict, for instance, have been found to help extract concessions by signaling toughness and ambition (Sinaceur & Tiedens, 2006; Van Kleef et al., 2004), but they also reduce the likelihood of settlement.
Expressions of happiness have been found to be conducive to engendering a positive atmosphere and interpersonal liking, but they also invite exploitation by signaling contentment (Van Kleef et al., 2004). Expressions of sadness or disappointment can elicit concessions by functioning as a call for help (Sinaceur et al., 2015; Van Kleef et al., 2006), but they can also backfire by signaling weakness (Lelieveld et al., 2013). Such effects of emotional expressions have been observed across verbal as well as nonverbal expressions, which have been characterized as “functionally equivalent” in the sense that the social effects of emotional expressions are qualitatively similar across expressive modalities, even though they may differ in magnitude (Van Kleef, 2017).

Given that every emotional expression studied thus far in the literature on conflicts within non-close relationships has turned out to be a double-edged sword, the question arises whether it might be better to avoid displaying emotions altogether in such settings. This strategy is epitomized in the normative bargaining approach (Nash, 1950; Raiffa, 1982), which assumes that parties involved in social decisions and interactions are “rational actors”. According to this view, decisions are (and should be) based solely on a utilitarian analysis of cost and value, without the interference, and indeed the encumbrance of emotions. From this perspective, emotions entail a loss of control (Susskind & Cruikshank, 1987), and can be interpreted as reflecting low power (Nierenberg, 1968), thus threatening to undermine a negotiator's bargaining position (Brett & Thompson, 2016; Emerson, 1962; Galinsky et al., 2017; Kim et al., 2005; Malhotra & Bazerman, 2007). In support of this idea, research has shown the benefits of demonstrating poise and emotion-control under conditions of pressure, which enabled negotiators to extract more concessions from their counterparts (Sinaceur et al., 2011). Although not directly advocating for indifference expressions, readers and practitioners could be forgiven for interpreting the applied message of this literature as
suggesting that expressing indifference is a good strategy, although this has never been put to the empirical test.

If in fact emotions are tantamount to weakness and irrationality, as the normative approach may imply to some (Thompson et al., 2001), people may be motivated to explicitly communicate a lack of emotionality by expressing indifference. Indeed, a common recommendation to professional negotiators is to “put on a poker face” (Thompson et al., 2001), that is, to explicitly control one’s emotional expressions so as to communicate to observers that one is not emotionally affected. Relatedly, Schneider and colleagues (2013) define a poker face as selectively expressing or masking inner feelings depending on the desired outcomes. However, despite the relative decisiveness coupled with such advice in professional domains (Nash, 1950; Raiffa, 1982; Thompson et al., 2001), the effects of being confronted with an explicit expression of emotional indifference in conflict have not been empirically tested.

**Conceptualizing Emotional Indifference – Experience and Expression**

The phenomenon of emotional indifference is relatively understudied, both in terms of experience and in terms of expression. In terms of experience, indifference is defined as a low-arousal response to an emotionally-eliciting situation or person (Abbasi & Alghamdi, 2017; Opbroek et al., 2002; Price et al., 2009). Although under-researched in social and cognitive psychology, important insight in the unique attributes of emotional indifference can be gleaned from research in clinical psychiatry, clinical therapy, and neurology. For example, emotional indifference has been described as flattened affect or a lack of arousal (Heilman et al., 1978), as well as a decrease in emotional responsiveness (Opbroek et al., 2002). Others define it as a sense of emotional detachment and diminished emotionality in interpersonal relationships (Sansone & Sansone, 2010), and a reduction in emotional sensitivity (Price et al., 2009), experimentally evidenced as weakened responses to emotionally-inducing stimuli.
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mentioning indifference, research on postural emotional expressions (Dael et al., 2012; Riskind, 1984) illucidates how non-arousal (vs. arousal) emotional responses can be expressed using specific body actions and postures. Moreover, research has demonstrated that indifference expressions are distinct from both neutral and highly emotional (passion) utterances in terms of acoustic patterns, demonstrating significantly lower amplitude and pitch. Furthermore, indifference expressions were marked by significantly higher use of explicit affect-related words (such as “I don’t care”) as a vital characteristic compared to neutral and passionate expressions (in which people were found to explicitly mention affect significantly less).

All in all, what seems consistent is that unlike a neutral, non-emotional state or baseline, indifference is a non-emotional cognitive response to an event that can be considered or perceived as being emotionally evocative. This context – the presence of an emotion-eliciting event – is what most directly differentiates indifference from a simply non-emotional state. In terms of expression, indifference carries with it additional meaning because the observer believes that the situation (or they themselves) should elicit an emotion in the expresser, and the lack of emotional response signals low engagement with the situation (and in conflict contexts, low motivation to collaborate).

Although the literature thus contains important insights into the nature and manifestations of indifference, research has yet to examine the influence of expressions of emotional indifference on observers’ responses. Whereas some previous work on the social effects of emotional expressions included a control condition in which no emotional expression was shown (Drolet & Morris, 2000; Kopelman et al., 2006; Sinaceur & Tiedens, 2006; Van Kleef et al., 2004), this work does not speak to the social effects of explicit expressions of indifference. We contend that explicit expressions of indifference, which

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entail a distinct pattern of facial, vocal, bodily, and verbal displays as described above, may hold special meaning and have unique effects that have thus far remained undiscovered.

**The Effects of Indifference Expressions on Cooperation in Conflict**

The normative bargaining approach holds that portraying poise (Nash, 1950; Raiffa, 1982; Thompson et al., 2001), which may be interpreted as reflecting indifference, serves parties in conflict because it signals they are in control. Although such signals may have favorable effects, extant perspectives fail to account for the role that emotional expressions (or explicit lack thereof) play in social contexts by conveying crucial information that enables social coordination. To develop an understanding of the possible social effects of indifference expressions, we draw on emotions as social information (EASI) theory (Van Kleef, 2009, 2016), which is rooted in social-functional approaches to emotion (Fischer & Manstead, 2016; Fridlund, 1994; Frijda & Mesquita, 1994; Hareli & Rafaeli, 2008; Keltner & Haidt, 1999; Parkinson, 1996). Social-functional approaches emphasize the importance of emotions in regulating social interaction by aligning people’s orientations to the situation and to each other. Within this broad perspective, EASI theory delineates the processes and contingencies that govern the interpersonal effects of emotional expressions to illuminate how one person’s emotional expressions influence others’ affect, cognition, and behavior. Specifically, EASI theory postulates that emotional expressions regulate social interactions by eliciting inferential processes (deriving information from emotional expressions about the expresser, the situation, and/or the self) and/or affective reactions (emotional contagion, sentiments regarding the expresser or the situation) in observers, depending on individual and situational contingencies (for a recent review, see Van Kleef & Côté, in press). We propose that expressions of indifference may influence observers’ behavioral responses via both pathways.

In terms of inferential processes, expressing indifference may signal low motivation to engage in a collaborative process towards resolving the conflict. According to appraisal
theories (Ellsworth & Scherer, 2003; Frijda, 1986), emotions arise when events are appraised as important and relevant to the person’s concerns. By reverse logic, indifference would signal that a particular event is deemed irrelevant to one’s concerns (Van Kleef, 2016). Such inferences may reduce expectations regarding the counterpart’s intentions to collaborate, as the counterpart appears to be uninvolved in the situation. The importance of expectations about a counterpart’s likelihood to collaborate in motivating cooperative behavior has been documented in past literature. Deutsch (1949; 1958) argued and showed that individuals who are exposed to a cooperative social situation tend to be more cooperative themselves, and that their expectations about their counterparts’ collaboration plays a critical role in inducing cooperation. Social exchange theory (Cropanzano & Mitchell, 2005) asserts that individuals engage in social exchanges and pursue relationships perceived as beneficial. Relatedly, the universal norm of reciprocity (Gouldner, 1960) outlines that individuals engage in reciprocal behavior, “giving back” what they receive. Based on these perspectives, people seem to be motivated to recognize and anticipate their counterpart’s intentions to cooperate or compete in forming their own attitudes and behaviors. For instance, recent work has shown that perceptions of a counterpart’s support for an agreement increased participants’ approval for that agreement (Cohen-Chen et al., 2017) by increasing the extent to which it was viewed in a positive light. More recently, Schroeder and colleagues (2019) evidenced the role of nonverbal signals of collaboration (in the form of a handshake) in increasing participants’ perceptions of the counterpart’s cooperation, subsequently promoting cooperative intentions in the workplace.

In terms of affective reactions, being confronted with another person’s indifference might be experienced as affectively aversive. The message that the observer is irrelevant and not consequential enough to elicit an emotional reaction (even a negative one in the context of conflict) may well be interpreted, and experienced, negatively. One indication of possible
effects of indifference expressions on negative affective reactions can be found in work on emotion suppression (Gross, 2008), an emotion regulation strategy in which individuals suppress the outward expression of felt emotions. Previous work (Butler et al., 2003; Gross, 2002; Uchino et al., 1996) has shown that interacting with individuals who are unresponsive to emotional cues increased stress and negative affect in observers. Specifically, in conflicts within non-close relationships, lack of accountability for wrongdoing (which could be implied by indifference expressions), has been found to elicit anger (Smith & Lazarus, 1993).

In conflicts within close relationships, where positive regard and care of the other (Cavallo & Holmes, 2013), manifested in emotional responsiveness (Overall et al., 2006, 2009) are comparatively more important, indifference may additionally lead to feeling hurt, a blend of sadness and anger which occurs in a meaningful relationship when a person is wronged (eliciting anger) but does not believe the perpetrator cares enough to remedy their wrongdoing (Shaver et al., 2009). Furthermore, research in the context of romantic relationships points to emotional indifference as a major underlying reason for relationship dissolution (Barry et al., 2008). Indifference is listed as a symptom occurring in hurtful family environments (Mills & Piotrowski, 2009; Vangelisti et al., 2007), indicating that indifference expressions have negative affective implications under some conditions. The possibility that explicit expressions of indifference can be experienced as negative resonates with prior conjecture that, like contempt, expressions of indifference signal another person’s inferiority (Fischer & Giner-Sorolla, 2016; Wagner, 2000), which may lead to negative affective responses (Rozin et al., 1999). Thus, it is possible that expressing indifference diminishes cooperation by increasing negative affect towards the expresser or the situation.

In sum, whereas widespread professional recommendations may be taken to suggest that indifference expressions represent a strategic way of signaling a powerful bargaining position and extracting cooperation from counterparts, we draw upon EASI theory to
hypothesize that a counterpart’s indifference expressions can undermine a focal negotiator’s cooperation by triggering negative affective responses and/or fueling inferences that the counterpart is unlikely to collaborate.

**Ambiguity and the Diagnosticity of Emotional Expressions**

A core tenet of emotions as social information (EASI) theory (Van Kleef, 2009, 2016) is that emotional expressions provide information about the expresser, which observers may use to disambiguate fuzzy social situations and inform an adaptive course of action. This argument implies that emotional expressions take on heightened importance in more ambiguous situations, where less direct information is available about the behavioral intentions of interaction partners. Conversely, emotional expressions would have a lesser impact on observers’ behavior in situations where observers have more direct sources of information about their counterpart’s behavioral intentions. Consistent with this logic, expressions of anger increased concessions via inferences of toughness in negotiations that entailed a mixture of cooperative and competitive incentives (rendering the counterpart’s future actions unclear), but they backfired via negative affective reactions in negotiations that contained uniformly cooperative or uniformly competitive incentives (Adam & Brett, 2015). Furthermore, expressions of happiness versus sadness had a stronger impact on observers’ inferences of cooperation, trust, and conflict among group members when there was greater ambiguity surrounding the group’s trajectory (Homan et al., 2016). Finally, expressions of hope (vs. hopelessness) by an outgroup in social conflict were interpreted by ingroup members as signaling the outgroup’s willingness to compromise when no direct information about the outgroup’s stance was available, but had no effect when the outgroup explicitly expressed support for an agreement (Cohen-Chen et al., 2017). These arguments and findings suggest that any effects of a counterpart’s indifference expressions on cooperation in social conflict might be reduced when explicit information is provided about the counterpart’s
behavioral inclinations, because such explicit information would decrease the diagnostic
value of the counterpart’s emotional expressions.

The Present Research

In the present research, we investigated the interpersonal effects of explicit
expressions of emotional indifference on social responses in non-close relationship conflicts. We started out by examining lay perceptions regarding indifference expressions in conflict. Specifically, in Study 1, we examined whether people express indifference in conflict and whether they perceive expressing indifference as a neutral message. Next, we conducted five experiments to test the effect of indifference expressions on cooperative intentions and behaviors. In Study 2a, we presented participants with an engaging conflict scenario during which their counterpart verbally expressed indifference (compared with hope, anger, contempt, and no emotion). Next, we measured participants’ cooperative intentions as well as their expectations regarding the counterpart’s collaboration and (coded) negative affect. In Study 2b we compared the effects of verbal indifference expressions to neutral expressions on expected collaboration and negative affect (self-report) in a team-based conflict situation. Study 3 was a lab study in which we employed trained actors to record videos showing a counterpart’s verbal and nonverbal expressions of indifference (versus no emotion) prior to ostensibly entering a conflict negotiation. We measured participants’ expectations regarding the counterpart’s collaboration as well as their own cooperative intentions. Moreover, we assessed participants’ heart rate variability (HF-HRV) as a physiological index of negative affective responses to indifference expressions. In Study 4, we tested our model using a behavioral measure of cooperation, operationalized as the decision to stay at the table and continue interacting with the counterpart (as opposed to leaving the table). Lastly, in Studies 5 and 6, we examined whether the effects of indifference expressions on cooperative intentions (Study 5) and behavioral cooperation (Study 6; operationalized as a first offer) via
expected collaboration were moderated by the presence of direct expressions of intended cooperation. Finally, we conducted an internal meta-analysis to provide a reliable estimate of the size of key effects across studies.

Across studies, we report how we determined our sample sizes, and describe all data exclusions, manipulations, and measures. All data, analyses syntax (where possible), and research materials are available on OSF:

https://osf.io/jrxkw/?view_only=27d73b6a8729406a9eb49573565c7d91. Across studies, we followed JARS (Appelbaum et al., 2018) guidelines for reporting quantitative results. We received ethical approval from the relevant institutions for all studies. All assignment to experimental conditions was random, determined either by Qualtrics or by a random assignment process at the lab. Assignment to conditions was masked to participants and research assistants involved in executing the studies. Data was analyzed using SPSS version 27, and Kubios version 3.0.0 Premium to analyze the HF-HRV data. Payment for online studies was decided as follows. We used Qualtrics’ approximation of the survey completion time, which was entered into Prolific as the time needed to complete the study. We then used the recommended payment level provided by Prolific, which operates a “fair reward policy” (based on national living wage in the UK). Payment for the lab study was set at £10 (standard payment for participants in said lab), to which we added £1 as an incentive.

Study 1

Method

Participants and Design. Two hundred and fifty participants (Mean age 30.07, SD = 10.22; 46.4% Men) completed a study on their opinions regarding negotiations and conflict management via Prolific Academic in exchange for £0.55. Sample size of over 193 participants was determined using G*Power (exact; r > .20; power = .80).
Measures. Participants indicated whether (or not) they had ever explicitly expressed indifference during a dispute. Next, participants indicated to what extent they perceive indifference as a positive, negative, and neutral expression on a scale from 1 (totally disagree) to 6 (totally agree). We also asked participants to report their age and gender.

Results

Regarding the prevalence of indifference expressions in everyday life, fifty percent of participants \((n = 126)\) indicated they had used an indifference expression in a dispute at least once in the past. To test the perceived neutrality of indifference expression we ran a repeated measures ANOVA \((F(2,249) = 35.34, p < .001, \eta^2_p = .12)\) and found participants considered indifference expressions to be significantly more neutral \((M = 3.93, SD = 1.34)\) than either positive \((M = 3.06, SD = 1.12), p < .001, d = .70,\) or negative \((M = 3.09, SD = 1.16), p < .001, d = .67.\) No difference was found between the extent to which participants saw indifference as positive or negative, \(p = .76.\) These results indicate that expressing indifference is perceived as a neutral expression in a negotiation or conflict\(^1\).

Discussion

The results from Study 1 suggest that people believe indifference expressions are neutral rather than positive or negative. Against this background, we examined in Studies 2 to 6 how people respond when faced with a counterpart’s indifference expressions in social conflict.

Study 2a

Study 1 substantiated our assumption that expressions of indifference are perceived as emotionally neutral (compared to negative or positive) in the context of social conflict. In

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\(^1\) In addition, participants were asked: ‘If you had to choose one thing to express… during a dispute or negotiation, what would bring the best results for you?’ Options were hope, anger, contempt, and indifference. When asked to choose one expression that would yield the best results, 30% chose indifference expressions, compared to merely 4% who chose anger. A chi-square test showed the difference between the anger and indifference choices was significant \(X^2 (1,240) = 4.46, p = .03,\) Cramer’s \(V = .13.\)
Study 2, we wanted to test how people respond when confronted with expressions of indifference by a counterpart in a social conflict. Specifically, we examined how expressions of indifference would impact observers’ cooperative intentions. In doing so, we tested our theoretical argument that a counterpart’s indifference expressions would decrease cooperation by reducing expectations of the counterpart’s collaboration and/or increasing negative affective reactions.

Method

Participants and Design. Four hundred and three participants (Mean age 30.94, SD = 11.05; 46% Men) were recruited via Prolific Academic in return for £1.5. Sample size of over 375 participants was determined using G*Power (effect size $f = .18$ computed from a pilot; power = .80). No participants were omitted from the analysis based on our exclusion criterion of duplicate IP addresses.

Procedure. Participants read a work-related conflict scenario based on a Negotiation and Team Resources (NTR) case called “At Your Service” (Brett & Gelfand, 2007; Gelfand et al., 2013), describing a conflict between two partners (entrepreneur and chef) of a struggling restaurant. Participants were assigned the role of an entrepreneur who entered a catering venture with an accomplished (yet businesswise inexperienced) Chef called Martin. They read that profits were inconsistent in the first year, but that currently (year 2) the business is steadily losing money and has had to start using the reserves in order to stay afloat. The text expounded that the chef was mismanaging the business by offering elaborate dishes with more expensive ingredients without increasing prices. Relations had turned somewhat contentious as the chef recently ignored direct instruction to raise prices. This required the entrepreneur (participant) to intervene by raising the new menu prices and

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2 We used the effect size found in a pilot study comparing indifference expressions to anger and hope ($f = .25$; medium effect size) to inform our sample size in Study 2, which included two additional conditions (Neutral and Contempt). We estimated a slightly more conservative effect size of $f = .18$ due to the additional conditions, which is the mid-point between a small ($f = .10$) and medium ($f = .25$) effect size.

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implementing a strict budget for ingredients. However, the business continues to lose money and cash reserves are low.

Next, we provided information regarding what dissolving the partnership would entail. For example, partners would have to decide what to do with the leases on the kitchen space and equipment, which still have 18 months left. Terminating these leases early would cost money, and partners would need to agree on who will pay for this expense. The instructions also spelled out the implications of staying in business together. For example, partners would have to agree on a new working process so they can be sure both will be disciplined in terms of budget and expenses moving forward. This information was important because it illustrates what the literature on conflicts in non-close relationships suggests as a key characteristic of many conflicts: the long-term interdependence between parties. This long-term interdependence means that disengaging from the relationship comes at a cost both to the individual and to their counterpart (Brett, 2014, 2017). Thus, dissolving the business or the relationship constitutes disengagement from the other side, but also a form of punishment, with the acknowledgement that oneself, too, will incur a cost.

Lastly, participants learned that they had briefly discussed dissolving the business, and that an upcoming and final meeting was set up, in which the fate of the business would be determined.

Participants were then presented with an imaginary email from the chef in light of the upcoming meeting, saying “…I thought I should let you know how I feel about it before we meet up to discuss the next steps.” Depending on the condition, participants saw one of five additional sentences: “When I think about the situation I feel angry because my goals and interests are being thwarted and I feel unjustly treated”; anger condition ($n = 83$); “When I think about the situation I feel hopeful because I believe there is the possibility of us coming together”.

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3 The full original text is copyrighted and can be accessed at: [https://www.negotiationandleamresources.com/product/at-your-service/](https://www.negotiationandleamresources.com/product/at-your-service/)

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to a viable solution”; hope condition \((n = 82)\); “When I think about the situation I feel contempt because the things that have happened between us are beneath me; contempt condition \((n = 79)\); “I’ll meet you tomorrow at the restaurant, so we can talk about the possibilities we both have in dealing with our situation”; neutral condition \((n = 81)\); or “When I think about the situation I feel indifferent because the things that have happened do not really affect me emotionally”; indifference condition \((n = 78)\).

Besides indifference, we included anger because this emotion has been found to signal a low willingness to cooperate (Van Kleef et al., 2004), and hope because it has been found to signal a high willingness to cooperate (Cohen-Chen et al., 2017), as relevant comparisons. Furthermore, we included contempt because prior work proposed that indifference expressions could potentially be interpreted similarly to contempt under certain conditions (Fischer & Giner-Sorolla, 2016; Melwani & Barsade, 2011). Lastly, we included a no emotion condition to differentiate between explicit indifference expression and a non-emotional control condition.

We included the appraisal statements underlying the emotional expressions for two reasons. First, we aimed to make the expressions ecologically valid, as people involved in a conflict would be unlikely to state their emotion without articulating why they feel that way (Ellsworth, 2013; Scherer, 1999). Second, we wanted to minimize variance in interpreting emotional expressions (for example, is the counterpart hopeful about dissolving the business or about making the relationship work?) by being clear about the target and content of the emotion. This is in line with previous work on emotional expressions in conflict, in which specific appraisals were provided (Cohen-Chen et al., 2017, 2019).

Our operationalization of the indifference condition as verbally stating a lack of emotional reaction was based on the work of Truesdale and Pell (2018), who demonstrated that the explicit linguistic encoding of lack of affective responses is a fundamental and unique
characteristic of indifference expressions that distinguishes them from neutral expressions, which do not mention affect.

**Pre-test of indifference manipulation.** We verified the effectiveness of the emotional indifference manipulation in a separate pre-test prior to the main study. A total of 351 participants recruited through Prolific Academic (mean age = 27.67, SD = 8.89; 43% Men) were randomly shown one of the five emotional expressions described above, and indicated to what extent they thought they reflected anger / hope / contempt / indifference / no emotion (1 = not at all to 6 = entirely). A one-way ANOVA with Bonferroni correction indicated, most importantly, that the indifference expression was rated significantly higher on indifference than on all other emotions ($F(4,346) = 12.54, p < .001$; Mean Differences > 1.04; $ps < .002$). Furthermore, the other emotional expressions were also rated significantly higher on the corresponding emotions compared to other expressions ($ps < .001$). Thus, we concluded that our manipulation of emotional indifference worked as intended.

**Measures.** *Expected collaboration* included three items adapted and expanded from Schroeder et al. (2019): “Martin will be cooperative”, “Martin will try to work together with you to achieve a mutually beneficial outcome” and “I believe maintaining our relationship is important to Martin” (α = .85). Answers ranged from 1 (strongly disagree) to 6 (strongly agree).

Both coded negative affect and cooperative intentions were derived from an open-ended question, in which participants were asked to generate potential solutions for the current conflict: “At this point we ask that you think about how you would proceed in this negotiation. Please generate as many different and varied solutions to this negotiation as possible.”

*Coded negative affect* was assessed by two coders who were blind to the hypotheses and conditions from 1 (“completely positive… positive words, perceptions of the other
side…) to 4 (“completely negative, even aggressive… mentioning the negative things the other side has done”). Inter-coder reliability was good (average measure ICC = .84; 95% confidence interval [.811, .873]; $F(389,389) = 6.45, p < .001$), hence ratings were combined in a single index of coded negative affect.

Cooperative intentions were assessed using two measures. To measure self-rated cooperative intentions, we followed up the open-ended question regarding solution with the question: “In the solutions you presented in the previous question, to what extent did you focus on…” Answers ranged from 1 (ending the business relationship) to 10 (maintaining the business relationship). Additionally, two coders coded the level of cooperation intentions found in participants’ solutions on a scale of 1 (“not interested in continuing the business”; an example of such an answer was “He can buy me out with an offer, or we liquidate”) to 4 (“indicates unequivocal willingness to continue the business”; an example of such an answer was “I will also agree on improving the quality of our ingredients and the dishes of our restaurant. I hope to compromise with him and maximize our profits together without hurting each other”). A high degree of reliability was found between the coders (average measure ICC = .92; 95% confidence interval [.898, .932]; $F(380,380) = 12.04, p < .001$). We therefore combined their ratings into a single index of the participant’s coded cooperative intentions.

We used the same two coders for all coding, but coding was conducted separately both in terms of time (over one month apart) and in different files (so that coders could not see each other’s ratings), and datasets were randomized in order to reduce single-source bias. Coded cooperative intentions and coded negative affect were positively correlated ($r = -.54, p < .001$), yet distinct from one another (29% shared variance).

Results

Expected collaboration. A one-way ANOVA indicated a significant effect of condition, $F(4,398) = 40.32, p < .001, \eta^2 = .29$. Planned contrast analysis revealed that
indifference expressions reduced participants’ expectations of the counterpart’s intention to collaborate compared to all other conditions combined $t(398) = 8.76, p < .001$. Bonferroni post-hoc analysis revealed that indifference expressions yielded significantly lower expected collaboration compared to all other conditions individually (mean difference > .51, $p < .01$; see Table 1).

**Coded negative affect.** A main effect on the measure of coded negative affect emerged, $F(4,386) = 2.62, p = .03, \eta^2 = .03$. Once again, planned contrasts revealed that coded negative affect was significantly higher in the indifference condition compared to all other conditions combined $t(386) = 3.21, p = .001$. Although Bonferroni post-hoc analysis indicated the comparisons between indifference and all the individual conditions were not statistically significant (see Table 1), the trend suggests that indifference expressions are indeed experienced as negative.

**Cooperative intentions.** A one-way ANOVA indicated a significant effect of condition on self-rated cooperative intentions, $F(4,397) = 5.28, p < .001, \eta^2 = .05$. Planned contrast analysis revealed that indifference expressions reduced participants’ cooperative intentions compared to all other conditions combined $t(397) = 4.12, p < .001$. Bonferroni post-hoc analysis (see Table 1) revealed that participants in the indifference condition rated themselves significantly lower on cooperative intentions compared to the hope, anger, and neutral conditions (all mean differences > 1.28, all $p < .04$) but not the contempt condition (mean difference 1.09, $p = .14$). Coded cooperative intentions also showed a significant main effect $F(4,387) = 3.17, p = .01, \eta^2 = .03$, and the pattern was similar to the self-rated measure such that participants in the indifference expression condition indicated a lower willingness to cooperate than participants in all other conditions. Planned contrasts revealed that coded cooperative intentions were significantly lower in the indifference condition compared to all other conditions combined $t(387) = 3.19, p = .002$. However, Bonferroni post-hoc analysis
showed no statistically significant differences between the indifference condition and the individual comparison conditions (see Table 1). Coded cooperative intentions were strongly correlated with self-rated cooperative intentions ($r = .75, p < .001$), indicating that they were indeed aligned with one another.
Table 1

Means and Standard Deviations for Study 2a variables. Effect sizes and significance levels for Bonferroni post-hoc analyses are presented for each condition compared to the indifference expression condition.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Expected Collaboration</th>
<th>Coded Negative Affect</th>
<th>Self-Rated Cooperative Intentions</th>
<th>Coded Cooperative Intentions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Comparisons to indifference</td>
<td>Mean</td>
</tr>
<tr>
<td></td>
<td>$p$</td>
<td>Cohen’s $d$</td>
<td></td>
<td>$p$</td>
</tr>
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<td>Indifference</td>
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<td>1.05</td>
<td></td>
<td>2.68</td>
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<tr>
<td>Anger</td>
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<td>0.95</td>
<td>&lt; .001</td>
<td>0.99</td>
</tr>
<tr>
<td>Contempt</td>
<td>3.29</td>
<td>1.21</td>
<td>.01</td>
<td>0.44</td>
</tr>
<tr>
<td>No emotion</td>
<td>3.79</td>
<td>0.94</td>
<td>&lt; .001</td>
<td>1.00</td>
</tr>
<tr>
<td>Hope</td>
<td>4.71</td>
<td>0.84</td>
<td>&lt; .001</td>
<td>2.02</td>
</tr>
</tbody>
</table>

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Mediation analysis. Our theoretical argument based on emotions as social information (EASI) theory (Van Kleef, 2009, 2016) model suggests that the hypothesized negative effects of indifference expressions on cooperation are mediated by inferential processes (operationalized as expected collaboration) and/or affective reactions (operationalized as negative affect). To examine this, we conducted an indirect effect analysis including both mediators with multi-categorical IV using PROCESS indicator coding (Model 4; Hayes, 2013), comparing the indifference expression condition to anger (X1), hope (X2), no emotion (X3), and contempt (X4). Coded negative affect $b = -1.64$, $t = -9.73$, $p < .0001$, 95% CI [-1.97, -1.30] mediated the effect of indifference expressions on cooperative intentions for all contrasts ($X1a*b = .49$, 95% CI [.11, .91]; $X2a*b = .51$, 95% CI [.16, .88]; $X3a*b = .46$, 95% CI [.09, .85]; $X4a*b = .45$, 95% CI [.06, .86]). Expected collaboration $b = .80$, $t = 6.69$, $p < .0001$, 95% CI [.57, 1.04] mediated the effect of indifference expressions on cooperative intentions for all contrasts ($X1a*b = .81$, 95% CI [.47, 1.18]; $X2a*b = 1.54$, 95% CI [1.03, 2.09]; $X3a*b = .79$, 95% CI [.47, 1.18]; $X4a*b = .36$, 95% CI [.07, .69]; See Figure 1).

Figure 1. Mediation model showing that indifference expressions reduce self-rated cooperative intentions through reduced expectations of counterpart’s collaboration and induced negative affect (coded). Each pathway (X1-X4) is a comparison of the indifference expression condition to a different emotional expression. X1: anger; X2: hope; X3: neutral; X4: contempt.
To test the robustness of our effects, we replaced self-rated cooperative intentions with coded cooperative intentions, which again yielded a significant indirect effect of indifference expressions through expected collaboration and affect. Both mechanisms had a significant effect (coded negative affect $b = -.58$, $t = -11.25$, $p < .0001$, 95% CI [-.68, -.48]; expected collaboration $b = .15$, $t = 4.18$, $p < .0001$, 95% CI [.08, .22]). Once again, both expected collaboration ($X_1a*b = .15$, 95% CI [.07, .25]; $X_2a*b = .29$, 95% CI [.16, .44]; $X_3a*b = .15$, 95% CI [.07, .25]; $X_4a*b = .07$, 95% CI [.01, .14]) and coded negative affect ($X_1a*b = .17$, 95% CI [.04, .32]; $X_2a*b = .18$, 95% CI [.06, .31]; $X_3a*b = .16$, 95% CI [.03, .29]; $X_4a*b = .16$, 95% CI [.02, .30]) mediated the effect of indifference expressions on coded cooperative intentions for all contrasts. Thus, findings resembled the patterns found with self-rated cooperative intentions.

**Study 2b**

In Study 2b we aimed to extend our findings in a number of ways. First, rather than a coded measure of general negative affect, we used self-reported measures of negative affect.
and relevant discrete emotions in order to better understand affective reactions to expressions of indifference and allow for a richer comparison with the inferential mechanism. Furthermore, to enhance confidence in the generalizability of our conclusions to other (non-close relationship) conflict settings, we situated Study 2b within a different conflict context, although we remained within the domain of interpersonal conflict in non-close relationships.

**Method**

**Participants and Design.** Five hundred and fifty six participants (Mean age 28.20, \(SD = 9.03; 36\% \text{ Men}\)) were recruited via Prolific Academic in return for £.88. Sample size was determined using G*Power (effect size \(f = .25\); power = .80). Although the effect size in Study 2a was small-medium, we chose to be conservative and based the sample size on a small effect size due to the new conflict paradigm which had not been used in the past. Five participants were omitted from the analysis. Two had duplicate IP addresses, and 3 were found to be outliers (3 SD from the mean for the DV). Analyses were conducted on the remaining 551 participants.

**Procedure.** Participants were asked to imagine that they had been tasked with organizing a conference with a teammate, and that they had been given some money for expenses. This task was described as important as it would affect their assessment and quarterly bonus. Participants were told that due to the COVID-19 pandemic said conference could either be held online or face-to-face (“You have two options: 1. Due to COVID-19, the event can be done online. In this case, the funding would be used to pay a company that runs online conferences and events and manages the technical and logistical issues. 2. The second possibility is to make the event face to face. In this case, the funding would be used to pay for a physical venue and light refreshments for guests”). Participants were asked to choose which option they would prefer and to briefly explain this in order to enhance commitment to their position. Next, they learned that their
partner had chosen the other option, a situation which created a conflict (“Your teammate insists that an online / face-to-face event is not a good idea, does not make sense and will not meet your company’s high standards. You strongly disagree, and every discussion so far has ended without a final decision and in a tense atmosphere. At this point, time is running out and you must decide on what course of action to take. You sent your teammate an email requesting a meeting to discuss your conflicting preferences”).

Participants were then presented with an imaginary reply to their email that included the manipulations, which were based on Study 2a. Conditions were: “I’ll meet you tomorrow at the office so we can talk about the possibilities we both have in dealing with our situation” (no emotion condition; $n = 273$); and “When I think about the situation I feel indifferent because the things that have happened do not really affect me emotionally” (indifference condition; $n = 278$).

**Measures.** *Expected collaboration* was measured using the same scale as in Study 2a ($\alpha = .82$). We measured *negative affect* in two ways. First, we administered the Positive and Negative Affect Scale (PANAS; Watson et al., 1998). Participants were given a list of ten general affective responses and asked to what extent they were “feeling this way right now”: “Interested; Distressed; Excited; Upset; Strong; Hostile; Enthusiastic; Irritable; Determined; Nervous.” Answers ranged from 1 (*Very slightly or not at all*) to 5 (*Extremely*). Items 1, 3, 5, 7, 9 were combined to indicate positive affect ($\alpha = .80$) and items 2, 4, 6, 8, 10 were combined to indicate negative affect ($\alpha = .80$). Second, we measured three *negative discrete emotions* in light of the message using the following separate items: “Anger towards the teammate”, “Hurt by my teammate”, and “Offended by my teammate”. Although items yielded acceptable reliability as a scale ($\alpha = .86$), we were interested in exploring the discrete relationships of each emotion and therefore analyzed them as single items.
Cooperative intentions were assessed the item: “To what extent do you intend to cooperate with your teammate? Answers ranged from 0 (No cooperation) to 100 (High cooperation).

Results

Expected collaboration. Participants in the neutral expression condition expected the counterpart to collaborate significantly more ($M = 3.43, SD = 1.17$) compared to those in the indifference expression condition ($M = 2.88, SD = 1.33; t = 5.17, p < .001, d = .44$).

Negative and positive affect. Participants in the neutral expression condition experienced less negative affect ($M = 2.38, SD = .88$) compared to those in the indifference expression condition ($M = 2.54, SD = .95, t = 2.01, p = .045, d = .17$). No difference was found between the conditions in terms of positive affect ($t = .68, p = .49$).

Negative discrete emotions. Participants in the neutral expression condition were significantly less angry ($M = 2.40, SD = 1.18$), hurt ($M = 2.30, SD = 1.25$), and offended ($M = 2.32, SD = 1.27$) compared to those in the indifference expression condition (Anger: $M = 2.90, SD = 1.13; t = 5.04, p < .001, d = .43$; Hurt: $M = 2.76, SD = 1.28; t = 4.22, p < .001, d = .36$; Offended: $M = 2.94, SD = 1.24; t = 5.76, p < .001, d = .49$).

Cooperative intentions. Participants in the neutral expression condition reported greater intentions to cooperate ($M = 68.09, SD = 20.58$) compared to those in the indifference expression condition ($M = 63.49, SD = 22.68; t = 2.49, p = .01, d = .21$).

Mediation analysis. We examined the indirect effect of the indifference expression on cooperative intentions through expected collaboration (inferential process) and through general negative affect and negative emotions (affective process). We conducted the analysis with separate discrete emotions as well as with the scale of negative emotions. All candidate mediators were entered simultaneously. The indirect effect of indifference expressions on self-rated cooperative intentions through expected collaboration (PROCESS Model 4; Hayes,
2013) was significant ($a*b = -3.12$, 95% CI [-4.59, -1.81]), as was the indirect effect through anger ($a*b = -1.26$, 95% CI [-2.45, -0.22]). Negative affect ($a*b = .02$, 95% CI [-.38, .41]), hurt ($a*b = .71$, 95% CI [-.27, 1.85]), and offense ($a*b = -.98$, 95% CI [-2.41, .42]) did not mediate the effect (See Figure 2). Pairwise contrasts of indirect effects analysis showed that expected collaboration was significantly stronger than all forms of affective responses (95% CI of expected collaboration compared to anger [-3.70, -.17]; hurt [-5.67, -2.21]; offense [-4.29, -.14]; negative affect [-4.64, -1.83]). Similar results were found using a scale of negative emotions (Expected collaboration: $a*b = -3.30$, 95% CI [-4.83, -1.93]; Negative emotions: $a*b = -1.16$, 95% CI [-2.20, -.20]; Negative Affect (PANAS): $a*b = .02$, 95% CI [-.37, .42]). Pairwise contrasts of indirect effects analysis showed that expected collaboration was significantly stronger than negative emotions (95% CI [.39, 4.02]) and negative affect (95% CI [1.93, 4.86]).

*Figure 2.* Mediation model showing that indifference expressions reduce self-rated cooperative intentions through reduced expectations of counterpart’s collaboration and increased anger. Dark arrows indicate significant mediation; light arrows indicate non-significant mediation.
Discussion

Studies 2a and 2b provided the first empirical test of our assumptions about the impact of indifference expressions on cooperative intentions. Our results revealed that indifference expressions had a negative effect on observers’ cooperative intentions, compared to negative (anger, contempt; Study 2a), positive (hope; Study 2a), and neutral (Studies 2a and 2b) expressions. In line with EASI theory, findings further point to expected collaboration (an inference) and negative affect (an affective reaction) as underlying mechanisms explaining the effects of indifference expressions. However, although participants experienced their counterpart’s indifference expressions as affectively aversive (coded negative affect in Study 2a; self-reported negative affect and discrete negative emotions in Study 2b), the inferential path of expected collaboration was a stronger predictor of cooperative intentions.

Study 3
In Study 3 we aimed to replicate and extend the findings from Study 2 to enhance confidence in the reliability and generalizability of the conclusions. First, we utilized additional operationalization channels for indifference versus neutral expressions. For this purpose, we employed video-recorded messages from the counterpart enacted by trained actors. In addition to an explicit verbal expression of indifference, we manipulated indifference expressions using nonverbal communication, including slumped posture and avoidant eye contact (Andreasen, 1989; Dael et al., 2012; Riskind, 1984; Salem & Kring, 1999). Second, we aimed to capture both between-subject effects and within-subject change in cooperative intentions due to expressions of indifference. The lab environment and commitment to a 60-minute session enabled us to assess our prediction that cooperative intentions change when participants are faced with an indifference expression. Lastly, we set out to replicate the effect of indifference expressions on cooperative intentions, including the mediating role of expected collaboration as an inferential process and (negative) affective reactions. To this end, we included a physiological measure of negative affective responding to further establish the insight emerging from Study 2 that people experience expressions of indifference as aversive. To allow incorporating this measure in the study, we limited our experimental design to two conditions, comparing indifference expressions with neutral expressions.

We measured heart rate variability (HF-HRV) as an index of affective responding. HRV refers to beat-to-beat changes in heart rate due to the influence of the autonomic nervous system (ANS)—specifically the interplay between parasympathetic (vagal) and sympathetic activity—at the heart’s sinus node (Acharya et al., 2006). Research has conceptualized HRV as an index of the efficiency of central-peripheral neural feedback mechanisms involved in the adaptability of several cognitive, affective, and behavioral responses to stimuli (Appelhans & Lueckin, 2006; Thayer & Lane, 2000). Specifically, the
high-frequency band of the HRV spectrum (hereafter, HF-HRV) indicates moment-by-moment parasympathetic modulation of the heart rate (Shaffer & Ginsberg, 2017).

Of particular relevance to the current research, decreases in HF-HRV have been associated with heightened experiences of unpleasant (i.e., negatively valenced) emotions in response to a negative stimulus (Appelhans & Luecken, 2006). The activity of the ANS is context dependent (i.e., responsive to emotional triggers), and short-term decreases in HF-HRV constitute a specific index of a decrease in ANS parasympathetic activity (Berntson et al. 1997; Massaro & Pecchia, 2019). Following an unpleasant event, decreases in HF-HRV reveal a withdrawal of the vagal brake on sympathetic activation. Conversely, increases in HF-HRV occur when a certain stimulus does not pose a challenge in terms of processing or regulation (such as functional social interactions; Smith et al., 2011). Decreases in HF-HRV can be found when the ANS is struggling to regulate or control its activity because of a heightened experience of unpleasant (i.e., negatively-valenced) emotions in response to a negative stimulus (Thayer & Lane, 2000). Short-term decreases in HF-HRV are consistently reported in psychologically stressful situations, indicated by the withdrawal of parasympathetic inhibition (see Cacioppo et al., 1994). Similarly, Dishman and colleagues (Dishman et al., 2000) used HF-HRV decreases as a marker for responses of anxiety, and Schwarz et al. (2003) reported decreases in HF-HRV as a result of increases in feelings of hopelessness. Finally, a growing body of research (e.g., Berna et al., 2014; Castagnetti et al., 2018) has recently shown that that discrete decreases in HF-HRV are associated with increased anger and/or exposure to anger eliciting stimuli. Based on the Study 2 finding that indifference expressions elicit negative affective reactions (both coded and discrete negative emotions), we anticipated that indifference expressions would elicit an HF-HRV response indicative of negative affect.

**Method**

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**Participants and Design.** One hundred and twenty-six participants (Mean age 32.32; SD = 13.05; 44% men) partook in a lab study in return for £11. Power analysis based on Study 2 ($d = .42$, power = .80) suggested a sample size of above 142. However, data collection was halted due to lab closure necessitated by the Covid-19 pandemic before we reached the target number. Since the lab is situated in a large and diverse city, we were able to recruit a diverse sample (17% East Asian, 11% Black, 27% South Asian, 1% Middle Eastern, 10% Mixed / Mixed White background, 32% White and 2% Other). One participant could not watch the manipulation video due to a technical issue and was therefore omitted from the analysis. We conducted three outlier detection analyses on multiple variables: 3 Standard Deviations from the mean (Howell, 1998), Median Absolute Deviation (Leys et al., 2013), and Cook’s distance (Cook, 1977). Two participants, who were found to be outliers using two or more of these analyses were omitted as well.

**Procedure.** The research was performed according to the principles of the Declaration of Helsinki, which set out the ethical principles for performing physiological and medical research involving human participants. Participants were affixed with heart rate monitors (Zephyr BioModule BH3-M1), after which an initial assessment of the ECG signals was performed live through remote Bluetooth monitoring on paired mobile phones by visually checking that the mean heart rate of each participant was within normal population parameters (controlled by research assistants). Following this, participants completed filler questions that provided roughly 5 minutes to measure ECG at rest. Next, participants read the role materials (using the same scenario as in Study 2a with name changes for both roles to gender-neutral names), and were asked to record a video message for their counterpart. They were told their counterpart would be doing the same, however the counterpart video was in fact pre-recorded and served as the experimental manipulation (indifference vs. neutral).
Videos were recorded in advance by professional actors (one man and one woman) in the same lab. This meant that the physical setting was similar to the participants’, enhancing the credibility of our claim that they would be meeting their partner later on. Importantly, we recruited both male and female actors to ensure that gender did not moderate the manipulation. The use of pre-recorded video clips portraying expressions of trained actors ensured that different participants within each condition would be presented with the exact same, experimentally controlled expressions. Truesdale and Pell (2018) warn against testing differences in vocal tone with actors (rather than spontaneous utterings) due to over-expressiveness, which can influence pitch and amplitude. Therefore, we chose to focus on body language rather than vocal tone. The expressions included the same initial spoken text ('I have years of experience doing this and have won awards for my abilities, so I think my opinion should matter. I have the best interest of the business in mind and am trying to turn it into an upscale place. Trying to limit my budget doesn’t help the situation'). However, the indifference expression condition included an additional sentence (indifference expression used previously: “Thinking about this situation, I feel indifferent because the things that have happened do not really affect me emotionally”). The text was somewhat ambivalent, including both positive and negative statements, to enable use for both conditions and to feed into the materials regarding the conflict. In addition, indifference versus neutral emotion was expressed via bodily displays and we ensured the manipulation worked as intended, demonstrated by the pre-tests below. The indifference manipulation was validated in two separate pre-tests.

**Stimuli pre-testing.** Actors were instructed to act “as if they do not care about the situation and are explicitly making this clear to their counterpart”. We again relied on Truesdale and Pell (2018) to operationalize indifference expressions in terms of explicit affective encoding (stating indifference), to which we added instructions regarding body
posture (loose posture) and inconsistent eye contact (with camera), associated with avoidance (Methot et al., 2017) and indifferent body language (Ackerman & Puglisi, 2012; Andreasen, 1989; Salem & Kring, 1999).

To ensure that actors conveyed the intended expressions, we pre-tested the videos on Prolific using two online studies. In the first pre-test ($N = 201$; Mean age = 30.14, $SD = 11.09$; 51% Men) participants were randomly assigned and presented with one of the videos (Indifference Man; Indifference Woman; Neutral Man; Neutral Woman). After watching the video, participants indicated perceived emotionality on a scale from 1 (extremely unemotional) to 6 (extremely emotional). They were asked to what extent they perceived the expresser as conveying indifference as well as experiencing indifference (in case they were perceived as feigning indifference), both on a scale from 1 (absolutely not) to 6 (absolutely). Expresser gender did not impact the extent to which actors were perceived to be indifferent, therefore we collapsed across conditions. The actors in the indifference video were perceived as conveying significantly more indifference ($M = 4.39$, $SD = 1.54$) compared to the neutral video ($M = 2.69$, $SD = 1.46$; $t(199) = 8.00$, $p < .001$, $d = 1.13$). The actors were also perceived as experiencing more indifference in the indifference videos ($M = 3.51$, $SD = 1.71$) compared to the neutral videos ($M = 2.56$, $SD = 1.43$; $t(199) = 4.28$, $p < .001$, $d = .60$). No difference was found in levels of perceived emotionality ($M_{\text{indifference}} = 3.01$, $SD = 1.36$; $M_{\text{neutral}} = 3.15$, $SD = 1.18$; $t(199) = .72$, $p = .47$, $d = .11$), indicating that participants did not see expressers as more or less emotional in the indifference condition (vs. neutral).

In the second pre-test ($N = 199$; Mean age = 25.90, $SD = 8.77$; 55% Men) participants were presented with the same videos, but the sound was removed in order to focus on body language only. Participants were asked to indicate their perception of the person’s posture from 1 (slumped) to 6 (upright), and eye contact from 1 (avoidant) to 6 (consistent). Next, they indicated to what extent the person in the video seemed engaged, involved, and attentive.

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from 1 (absolutely disagree) to 6 (absolutely agree). Lastly, we asked to what extent they thought the person was expressing indifference and neutrality (no emotion) from 1 (absolutely did not) to 6 (absolutely did).

Results showed that also when no verbal message was included (as the videos had no sound), participants reliably differentiated between indifference and neutral expressions in terms of non-verbal cues. The actors in the indifference condition were perceived as having a more loose, slumped posture ($M = 3.02, SD = 1.02$) compared to the actors in the neutral condition ($M = 4.29, SD = 1.07$; $t(197) = 8.56, p < .001, d = 1.21$), and they were perceived to maintain less eye contact ($M = 3.45, SD = 1.17$) compared to the neutral condition ($M = 4.68, SD = 1.08$; $t(197) = 7.71, p < .001, d = 1.09$). Significant differences were also found on perceived engagement ($M_{\text{indifference}} = 3.70, SD = 1.24$; $M_{\text{neutral}} = 4.24, SD = 1.32$; $t(197) = 2.99, p = .003, d = .42$), involvement ($M_{\text{indifference}} = 3.92, SD = 1.23$; $M_{\text{neutral}} = 4.47, SD = 1.07$; $t(197) = 3.39, p = .001, d = .48$), and attentiveness ($M_{\text{indifference}} = 3.73, SD = 1.14$; $M_{\text{neutral}} = 4.43, SD = 1.15$; $t(197) = 4.32, p < .001, d = .61$). Lastly, results revealed significant differences in the extent to which the person was perceived as expressing indifference ($M_{\text{indifference}} = 3.23, SD = 1.43$; $M_{\text{neutral}} = 2.78, SD = 1.37$; $t(197) = 2.28, p = .02, d = .32$) and no emotion ($M_{\text{indifference}} = 2.58, SD = 1.43$; $M_{\text{neutral}} = 3.67, SD = 1.34$; $t(197) = 5.53, p < .001, d = .79$). Expresser gender did not impact the extent to which actors were perceived to be indifferent, therefore we collapsed across conditions. Overall, the pre-tests validated our manipulation as conveying indifference (compared to neutral, non-emotional expressions) while also further establishing differences between indifference and neutral expressions in terms of on both verbal and non-verbal cues.

**Measures.** Expected collaboration was measured using the same scale as in Study 2 ($\alpha = .78$).
We computed a number of measures capturing cooperative intentions. After participants read their role materials and before the manipulation, we measured participants’ pre-manipulation cooperative intentions: “Regarding the conflict, to what extent will you focus on…” with answers ranging from 1 (Dissolving the business) to 100 (Remain in business together). We did this to allow for within-participant analysis, which provides a direct test of our prediction that cooperative intentions change when participants are faced with an indifference expression. Cooperative intentions were again measured just before participants expected to meet their counterpart. They were instructed: “At this point we ask that you think about how you will proceed with your counterpart face to face. This may include – what would you offer your counterpart (regarding the lease on the space, the van the equipment, the money, and your relationship)? What would you want in return? What are some different ways in which you wish to move forward? Please write down your ideas in advance.” Answers were coded by the same two external coders used in the previous study (average measure ICC = .92; 95% confidence interval [.887, .945]; $F(122,122) = 12.65, p < .001$) and averaged into a single index. Again, participants indicated to what extent their written answers focused on cooperation using a measure similar to that used in Study 2 (“In the solutions you presented in the previous question, to what extent did you focus on…”) ranging from 1 (dissolving the business) to 100 (remaining in business together). Lastly, a cooperative intention change was operationalized as the difference between the post-manipulation and the pre-manipulation cooperation measures.

Heart rate variability was measured using two 5-minute ECG excerpts from both the baseline segment at rest and immediately following the manipulation. From these, compliant with guidelines for HRV data selection and pre-processing (Massaro & Pecchia, 2019), we identified the RR series and computed HF-HRV as the natural logarithm of spectral density at 0.15-0.40 Hz. We followed the most recent procedures recommended for using HRV in
behavioral research (Massaro & Pecchia, 2019). Because several factors can affect the ANS functioning, and thus the resulting HRV features, we used stringently defined exclusion criteria. Participants reporting nicotine (Sjoberg & Saint, 2011) or caffeine (Grant et al., 2018) intake in the 6 hours preceding the experiment, regular alcohol or recreational drugs use (Quintana et al., 2013), and/or use of cardioactive or psychotropic medications (Laborde et al., 2017) were excluded prior to analysis. Further subjects were excluded due to issues related to signal acquisition. The final sample for HF-HRV analysis was $N = 76$, a sample that allows detection of medium effect sizes (see Quintana, 2017). To minimize possible confounding effects due to individual differences, we subtracted baseline values of HF-HRV from post-manipulation values (see Falk et al., 2018). The resulting index represents participants’ responsiveness in cardiac vagal tone following exposure to the experimental manipulation. An additional expert in HRV signal analysis who was not part of the current research team and who was blind to our hypotheses independently assessed and confirmed the quality of our analytical procedure. All data handling and analyses were conducted following the completion of data collection and sample definition. Self reported negative affect was not assessed in this study.

**Results**

**Expected collaboration.** Participants in the neutral expression condition expected the counterpart to collaborate significantly more ($M = 3.57$, $SD = 1.01$) compared to those in the indifference expression condition ($M = 2.77$, $SD = .95$; $t(121) = 4.56$, $p < .001$, $d = .81$).

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4 The raw ECG recordings were pre-processed off-line; visual inspection, editing, and artifacts correction were performed for irregular or ectopic beats. Following R-peak detection and RR-series extraction, we used the “smoothness priors” method to minimize very low frequency trend components (500; interpolation rate 4 Hz) (Tarvainen et al., 2002). Data quality was overall high and consistent with resting state recording conditions on baseline. The RR-series was analyzed using the software Kubios HRV (version 3.0.0) to obtain estimates of relevant HF-HRV features. The frequency-domain features we used here were computed via autoregressive (AR) estimates of frequency power. A model order of $p = 16$ was selected via the corrected Akaike information criteria (Gustafsson & Hjalmarsson, 1995). An alternative method to compute frequency bands in HRV research is the Fourier Transformation (FFT); however, AR has better peak resolution and more interpretable information and HF component estimates than FFT (Burr & Cowan, 1992; Pichon et al., 2006).

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Cooperative intentions. No significant difference was found in cooperative intentions prior to the manipulation \( t(121) = .11, p = .91 \). In contrast, in the post-manipulation measure, participants in the neutral expression condition indicated higher cooperative intentions (\( M = 73.28, SD = 32.39 \)) compared to those in the indifference condition (\( M = 59.84, SD = 31.02; t(121) = 2.35, p = .02, d = .42 \)). A mixed-model ANOVA substantiated the effect of the indifference expression manipulation on cooperative intentions between the two timepoints (Wilks’ Lambda = .93, \( F(1,121) = 8.89, p = .003, \eta^2_p = .07 \)), indicating that the change in participants’ intentions to cooperate was due to the manipulation. The measure of cooperative intention change showed that cooperative intentions decreased (compared to pre-manipulation cooperative intentions) among participants in the indifference condition (\( M = -6.24, SD = 29.86 \)), whereas they increased (compared to pre-manipulation cooperative intentions) among participants in the neutral condition (\( M = 7.69, SD = 21.11, t(121) = 2.98, p = .003, d = .54 \)). In terms of coded cooperative intentions, no main effect was found between the indifference (\( M = 2.77, SD = .77 \)) and the neutral (\( M = 2.79, SD = .74; t(121) = .21, p = .83 \)) conditions. However, the correlation between coded and self-rated cooperative intentions was significant (\( r = .79, p < .001 \)).

Heart rate variability. Results showed a relative HF-HRV decrease from baseline in the indifference expression condition (\( M = -.22, SD = .32 \)) compared to the neutral condition (\( M = .34, SD = .46, t(74) = 6.13, p < .001, d = 1.41 \); Figure 3). A one-sample t-test showed that the decrease of HF-HRV from zero for participants in the indifference condition was significant (\( t(36) = 4.06, p < .001, d = .67 \)), substantiating that participants experienced the indifference expressions as aversive. However, although we found a significant correlation between HF-HRV and expected collaboration (\( r = .31, p = .01 \)), no correlation was found between HF-HRV and cooperation intentions (\( r = .08, p = .48 \)).

Figure 3. Indifference expressions (vs. neutral expressions) significantly decrease heart rate variability (HF-HRV) from zero. The y axis corresponds to the change from participants’
own baseline (heart rate variation at rest), indicated as zero. Positive scores indicate an increase in HF-HRV, which is associated with positive affect and effective emotion regulation in response to stimuli. Negative scores indicate a decrease in HF-HRV, representing negative affective reactions in response to stimuli.

![Graph showing HF-HRV for Indifference and Neutral conditions](image)

*Note: Error bars represent standard error around the mean [95% CI]*

**Mediation analysis.** We examined the indirect effect of the indifference expression on cooperative intention change (to reflect the change over time found in the mixed-model ANOVA) through expected collaboration (inferential process) and HF-HRV (affective process). The indirect effect of indifference expressions on cooperative intention change through expected collaboration (PROCESS Model 4; Hayes, 2013) was significant (a*b = -6.37, 95% CI [-12.08, -2.11]; See Figure 4). On the other hand, and in line with the aforementioned findings showing that HF-HRV did not predict cooperative intentions, the indirect effect of indifference expressions on cooperative intention change through HF-HRV (PROCESS Model 4; Hayes, 2013) was nonsignificant (a*b = 2.25, 95% CI [-3.54, 9.95]). An indirect effect of expected collaboration was similarly found when conducting the analysis with cooperative intentions as the dependent measure, and controlling for pre-manipulation cooperative intentions (a*b = -5.84, 95% CI [-11.55, -1.82]), while none was found for HF-HRV (a*b = 2.71, 95% CI [-3.25, 10.57]). We conducted the mediations.
separately due to the reduced sample size used for the HF-HRV measure. However, similar results were found when including both mediators in the model. Similar results were also found when conducting mediation analyses with coded cooperative intentions (while controlling for pre-manipulation cooperative intentions in line with the dependent variable). Expected collaboration had a significant indirect effect ($a*b = -0.13$, 95% CI [-.28, -.02]) while HF-HRV did not ($a*b = 0.12$, 95% CI [-.01, .36]).

Figure 4. Mediation model showing indifference expressions reduce self-rated cooperative intention change through reduced expectations of collaboration. Dark arrows indicate significant mediation; light arrows indicate non-significant mediation.

Note: Reported coefficients in model are unstandardized. * represents $p < .05$; ** represents $p < .01$

Discussion

The results of Study 3 replicated the key finding of Study 2 – that indifference expressions undermine cooperative intentions by reducing expected collaboration – in a laboratory setting. The use of pre-recorded video clips allowed us to strengthen our operationalization of indifference expressions by including a visual manipulation of
indifference expressions. Importantly, we found that the direct effect of indifference expressions on cooperative intentions was significant when considering expected collaboration. We did not find a direct effect on coded cooperative intentions; however, we did find support for the indirect effect through expected collaboration for both measures.

Study 3 further replicated the finding of Study 2 that indifference expressions are aversive by demonstrating effects of indifference expressions on an established physiological index of negative affective responding (HF-HRV). However, inferential processes appear to be a more potent mediating mechanism in these studies compared to affective reactions.

**Study 4**

The objective of Study 4 was to further enhance confidence in the robustness of the key finding evidenced in Studies 2 and 3 by examining the effect of indifference expressions (vs. neutral expressions) on a behavioral measure of cooperation. Given that Study 2 revealed expected collaboration of the counterpart as explaining more variance than affective reactions (both coded and self-reported), and that Study 3 showed mediation through expected collaboration but not through negative affective reactions, we focused on expected collaboration moving forward.

**Method**

**Participants and Design.** Three hundred and thirty five participants (Mean age = 25.53, $SD = 8.23$; 60% Men) were recruited via Prolific Academic to take part in a 10-minute study in return for £1.25. Power analysis (Chen et al., 2010) based on a small effect size using G*Power [z-tests Logistic Regression; two tails; odds ratio = 2.5, $Pr(Y=1|X=1) H0=.1$; alpha .05; Power .80; $R^2$ other X = 0; Binomial; X parm=.5] yielded a recommended sample size of at least 308 participants. We oversampled to allow for participant dropout. Three
participants were omitted from the analyses due to duplicate IP addresses. The analyses was conducted on the remaining 332 participants.

**Procedure.** Participants were informed that they would be partnered with a fellow participant online and engage in a negotiation. They then read the role materials (the same as in the previous study) and were asked to send a message to their partner prior to their interaction (“You now have the opportunity to send your counterpart a message prior to the negotiation”). Next, they read the manipulation, which was received in the form of a message from their alleged partner based on the script used by the actors in Study 3 (Indifference added text: “When I think about this situation, I feel indifferent because the things that have happened do not affect me emotionally”; both: “I suggest we get started.”). Subsequently we measured the mediating and dependent variables.

**Measures.** *Expected collaboration* was measured using the same scale used in the previous studies (α = .81). Our behavioral dependent measure operationalized *cooperation* by capturing one’s intention to leave the negotiation. Removing oneself from a negotiation sends a clear signal that one has no interest in working together with the counterpart (Galinsky et al., 2009; Schweinsberg et al., 2012; Tuncel et al., 2016) and captures a decision that is not made lightly given negotiators propensity to accept a bad deal over an impasse (Tuncel et al., 2016). Therefore, in this study, we captured cooperative behaviors by allowing participants to remove themselves from the negotiation altogether. To do so, we operationalized cooperation with a binary measure capturing leaving the negotiation (coded 0) or staying in the negotiation (coded 1). Importantly, to increase the ecological validity of deciding to forego a negotiation, we paired the decision to leave with a cost to participants. The cost used by Schweinsberg et al. (2012) was £5 added to the fictitious negotiated outcome over rent (rather than actual payment to participants), while we chose to apply the cost to participants themselves in the form of additional time.
After receiving the message from their partner (including the manipulation: expression of indifference vs. no emotion) and indicating to what extent they believed their partner would collaborate, participants were offered the opportunity to either continue negotiating with the same partner or to be assigned a new partner (“After receiving your counterpart’s message you can decide whether or not you would like to engage in a negotiation with this person”). However, participants were told that if they chose to be reassigned, they would need to wait an additional minute for a new partner to be assigned (“Please be aware that if you choose not to [continue], you will be partnered with a new person which may take up to one additional minute”). At minimum, this would amount to 10% of the original study length (published as a 10-minute study), or £0.12 of lost value based on the payment. This does not account for the time that it would take to resend a message and receive a message from their new counterpart. We predicted that participants who received an indifference expression would be less cooperative (i.e., more likely to leave the negotiation), and that this would be mediated by reduced expected collaboration.

Results

**Expected collaboration.** As predicted, participants in the indifference expression condition expected their counterpart to be significantly less collaborative ($M = 3.16, SD = 1.14$) than those in the neutral condition ($M = 3.91, SD = .98; t = 6.37, p < .001, d = .70$).

**Cooperation.** Participants in the indifference condition were three times more likely to leave the negotiation (16.07%; 27 out of 168) than were those in the neutral condition (5.39%; 9 out of 167). Logistic regression analysis revealed that the odds of participants in the indifference expression condition leaving were significantly higher ($\beta = -1.21, \text{Wald} = 9.01, OR = 3.34, p = .003; 95\% \text{ CI} [1.52, 7.45]$) compared to the neutral condition.

**Mediation analysis.** We examined the indirect effect of indifference expressions on cooperation through expected collaboration using PROCESS (Model 4 conducted with a
binary dependent variable; Hayes, 2013). A significant indirect effect was found on cooperation through expected collaboration \((a*b = -0.25, 95\% \text{ CI } [-0.56, -0.005]; \text{ Figure 5})\). Thus, the indifference expression led participants to expect lower collaboration from the expressing counterpart, which subsequently reduced levels of cooperation.

Figure 5. Mediation model showing indifference expressions reduce cooperation through reduced expectations of collaboration.

\[
\begin{array}{ccc}
\text{Indifference} & \text{Expected} & \text{Cooperation} \\
\text{Expression} & \text{Collaboration} & \\
\text{-.74**} & \text{.33*} & \\
\text{-.96* (-1.21**)} & \\
\end{array}
\]

Note: Reported coefficients in model are unstandardized. * represents \(p < .05\); ** represents \(p < .01\)

Discussion

In line with our predictions and with the findings of Studies 2 and 3, Study 4 revealed that indifference expressions reduced expectations of counterpart collaboration, which subsequently decreased cooperation as captured by a behavioral measure.

Study 5

The aim of our final two studies was to test a theoretical contingency of the effects of indifference expressions on cooperation. EASI theory (Van Kleef, 2009, 2016) posits that responses to emotional expressions are mediated by affective and/or inferential processes, depending on individual and situational contingencies. The results of the previous studies indicate that this model applies to indifference expressions as well. The results of Studies 2 to 4 consistently show that the effects of indifference expressions on cooperation are mediated.
by inferential processes, specifically inferences regarding the likelihood of future
collaboration by the counterpart. Even though indifference expressions also elicited negative
affective reactions in Studies 2 (a and b) and 3, we obtained only limited evidence supporting
a mediating role of negative affective reactions. Specifically, in Study 2 negative affective
reactions mediated the effect on cooperative intentions but were weaker than the inferential
path; in Study 3 affective reactions did not mediate the effect of indifference expressions on
cooperative intentions. Thus, the responses to indifference expressions we observed in the
previous studies are better explained in terms of inferential than affective processes.

Given the apparent role of inferential processes in driving responses to indifference
expressions, we moved on to test an additional principle of EASI theory, namely that
inferential processes are particularly potent in explaining responses to emotional expressions
when observers are motivated and able to engage in thorough processing of the expressions
(Van Kleef, 2009). In other words, if responses to indifference expressions are indeed driven
primarily by inferential processes in non-close relationship conflicts, as our data suggest,
these effects should become weaker when there is a diminished need to engage in thorough
processing of the expressions. A key theoretical predictor of the need for thorough processing
of emotional expressions is the ambiguity of the situation (Van Kleef, 2016): The more
ambiguous the situation, the more attuned people should be to emotional expressions made
by others, because those expressions may help them to make sense of the situation. Empirical
evidence supports this view, showing that the effects of emotional expressions become
weaker when more direct information is available about the counterpart’s cooperative
intentions (e.g., Adam & Brett, 2015; Cohen-Chen et al., 2017). Building on this theoretical
notion and previous findings, we hypothesized that the effects of indifference expressions on
expected collaboration of the counterpart, and thereby on one’s own cooperative intentions,
would become weaker when more direct information about the counterpart’s cooperation is
Method

Participants and Design. Three hundred and ninety five participants (Mean age = 27.37, SD = 8.23; 53% Men) were recruited via Prolific Academic to take part in a 4-minute study in return for £.50. We determined our sample size using G*Power [F-test ANOVA: Fixed effects, special, main effects and interactions. effect size $f^2 = .20$, $\alpha = .05$, power = .80, numerator df = 1, Number of groups = 4. Total sample size required $N = 199$]. Given that we sought to detect an interaction effect, we doubled this number as per advice regarding G*Power and interactions (Giner-Sorolla, 2018). We recruited 415 participants to account for our exclusion criteria. In line with our pre-registered exclusion criteria, 0 participants were removed for having a duplicate IP address, 20 were removed for failing the attention check question regarding the expression presented in the case (“Based on the message, to what extent is the Chef indifferent”), and 0 were outliers (3 SD from the mean for the DV). The final analysis was run on the remaining 395 participants.

Procedure. We utilized a 2 (indifference vs. neutral expressions) X 2 (cooperative intentions vs. control) design, examining the interaction between the counterpart’s indifference expressions and explicit cooperative intentions on participants’ own cooperative intentions through expected collaboration of the counterpart. We utilized the same procedure used in Study 2. Participants were asked to read the role materials (using the same case as the previous study), and were then told about an upcoming meeting to determine the fate of the business partnership. They were then presented with an email message from the counterpart. This message contained the manipulations of the counterpart’s emotional expression and cooperative intentions.

5 The pre-registered measure of expected collaboration is different from the one reported here due to the review process. However, results are similar when using both measures.

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The first part of the message contained the emotional expression (indifference vs. neutral). Participants in the indifference expression condition read: “Honestly, I’m indifferent because the situation doesn’t affect me emotionally. I don’t really care.” The additional statement regarding care was based on the findings of Truesdale and Pell (2018), according to which this statement was used often in indifference expressions. Participants in the neutral expression condition read: “Let’s see how this turns out and what will come out of this process.” The next part of the message included the manipulation of cooperative intentions. Participants in the cooperative intentions condition read: “(But) I suggest we cooperate so we can achieve an outcome that works for us both. That’s my aim.” whereas participants in the control condition (no explicit cooperative intentions) read: “I will meet you next week at the restaurant to discuss what’s happened.” Next, we measured the mediating and dependent variables.

**Measures.** The expected collaboration ($\alpha = .81$) measure was the same as in the previous studies. The cooperative intention variable was measured using the item: “Moving forward in this process with the Chef, to what extent would you aim to maintain the partnership.” Answers ranged from 0 (ending the partnership) to 100 (maintaining the partnership) in increments of 10 (adjusted from -50 to 50 for ease of use). Finally, to ensure the cooperation expression was indeed interpreted as a cooperative intention of the counterpart, we included a cooperation expression manipulation check: “based on the message you received, to what extent was this person cooperative?” with answers ranging from 1 (Absolutely not) to 4 (Absolutely).

**Results**

**Cooperative Intentions Manipulation Check.** Findings established the effectiveness of the cooperative intentions manipulation in increasing perceptions that the counterpart intended to cooperate. As intended, participants who read an explicit message of cooperative
intentions from the counterpart perceived the counterpart as more cooperative (\(M = 2.73, SD = .85\)) compared to those in the control condition (\(M = 2.23, SD = .81\)), \(b = .49, t = 6.65, p < .001, d = .60.6\)

**Expected Collaboration.** We conducted a moderation model (PROCESS; Model 1) as the first step towards our moderated mediation model. The effect of both the indifference expression (\(b = -1.08, t = -10.81, p < .0001, 95\% CI [-1.28, -.88]\)) and the cooperative intention expression (\(b = .87, t = 4.37, p < .0001, 95\% CI [.67, 1.07]\)) were significant. As predicted, the interaction was also significant, \(b = .88, t = 4.37, p < .0001, 95\% CI [.48, 1.27]\). The interaction indicated that the effect of the indifference expression manipulation on expected collaboration of the counterpart was stronger when cooperative intentions were not stated (\(b = -1.52, t = -10.73, p < .0001, 95\% CI [-1.80, -1.24]\) compared to when they were (\(b = -.65, t = -4.57, p < .0001, 95\% CI [-.92, -.37]\), although both simple effects were significant.

**Cooperative intentions.** We observed a significant main effect of the cooperative intention expression manipulation on participants’ own cooperative intentions, such that participants reported greater cooperative intentions when counterparts stated their cooperative intentions than when counterparts did not (\(b = 6.82, t = 2.58, p = .01, 95\% CI [1.74, 11.89]\)). A significant main effect of the indifference expression was also found (\(b = -18.35, t = -7.10, p < .0001, 95\% CI [-23.43, -13.27]\)), indicating that participants held lower cooperative intentions when indifference was expressed compared to no emotion. Furthermore, a marginally significant interaction effect was found (\(b = 8.81, t = 1.71, p = .09, 95\% CI [-1.34, 18.96]\)). Results showed that the effect of the indifference expression manipulation on cooperative intentions was stronger when cooperative intentions were not stated (\(b = -22.76, t\)

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6 We also observed a main effect of indifference expression, \(b = -.72, p < .001\), as well as an interaction, \(b = .44, t = 2.94, p = .003, 95\% CI [.14, .73]\). Although unanticipated, these effects are consistent with our central claim that indifference expressions convey information about the expresser’s cooperative intentions.

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Based on our pre-registered model, we proceeded to test whether indifference expressions predicted participants’ cooperative behavior via their expectations regarding the counterpart’s collaboration, especially when no explicit cooperative intentions were stated (i.e., a moderated mediation effect).

**Moderated mediation analysis.** We conducted a moderated mediation analysis using PROCESS (Model 7; Hayes, 2013) to examine the effects of indifference expressions on cooperative intentions via expected collaboration when direct information about the counterpart’s cooperative intentions was or was not provided. The analysis yielded a significant effect ($a*b = 10.55, 95\% CI [5.73, 15.63]$). Further probing showed that indifference expressions led to lower cooperative intentions through reduced expected collaboration, and that this indirect effect was stronger when participants received no explicit information about their counterpart’s cooperative intentions ($a*b = -18.32, SE = 2.33, 95\% CI [-23.05, -13.94]$) compared to when they did receive such information ($a*b = -7.78, SE = 2.02, 95\% CI [-11.91, -4.06]$; Figure 6).

*Figure 6.* Moderated mediation model showing that the indirect effect of indifference on cooperative intentions through expected collaboration was stronger in the absence (rather than the presence) of explicit cooperation intentions expressed by the counterpart.
Discussion

In line with our predictions, indifference expressions reduced expectations of collaboration, which subsequently decreased cooperative intentions in a conflict. This indirect effect was weakened when explicit information about the counterpart’s future cooperation intention was provided compared to when no mention of cooperation was made.

Study 6

The goal of our final study was to further enhance confidence in the robustness of the key finding evidenced in Study 5 by using a behavioral measure of cooperation. We aimed to demonstrate that the effects of indifference expressions on expected collaboration of the counterpart, and thereby on one’s own cooperation, would become weaker when more direct
information about the counterpart’s cooperation is provided. Once again, we pre-registered the methods and analysis for this study: https://aspredicted.org/blind.php?x=aj4ra5.

Method

Participants and Design. Three hundred and ninety three participants (Mean age = 27.44, SD = 8.29; 52% Men) were recruited via Prolific Academic to take part in a 7-minute study in return for £.88. We determined our sample size using G*Power [F-test ANOVA: Fixed effects, special, main effects and interactions. effect size $f^2 = .20$, $\alpha = .05$, power = .80, numerator df = 1, Number of groups = 4. Total sample size required $N = 199$]. Given that we aimed to detect an interaction effect, we doubled this number as per advice regarding G*Power and interactions (Giner-Sorolla, 2018). We recruited 416 participants to account for our exclusion criteria. Of those, in line with our pre-registered exclusion criteria, 0 participants were removed for having a duplicate IP address, 18 were removed for failing the attention check question regarding the emotional expression presented in the case (same as the previous study), 5 were outliers (3 SD from the mean for the DV). In our pre-registration, we also anticipated excluding participants who failed a reading comprehension check (“According to the text, what do you think the problem is?” answers: the Chef is lazy; the Chef ignores my business decisions; I don’t have a problem with the Chef), which 42 participants answered incorrectly. However, after running the study, we received a number of messages from participants who indicated this question was too abstract and did not reflect their performance on the study, which we verified using the data (by examining their open-ended messages, answer patterns on opposite statements, and the amount of time they took to fill in the study overall). We therefore retained participants who failed this check provided that they met the other inclusion criteria of duplicate IP address, outlier analysis, and the

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7 The pre-registered measure of expected collaboration is different from the one reported here due to the review process. However, the results are similar when using both measures.

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Measures. The expected collaboration (α = .81) measure was the same as in the previous studies. Once again we included the manipulation check for cooperative intentions manipulation. The behavioral cooperation variable was measured using participants’ first offer, which participants were asked to indicate from £0 to £10,000. This was based on previous work (Aaldering et al., 2013) using first offers in negotiations. Higher offers indicate a willingness to contribute a larger share of the money needed to keep the business afloat, thus indicating greater cooperation.

Results

Cooperative Intentions Manipulation Check. Findings established the effectiveness of the cooperative intentions manipulation. Results showed that participants who read an explicit message of cooperative intentions from the counterpart indeed perceived the counterpart as more cooperative (M = 2.85, SD = .85) compared to those in the control (no cooperative intentions mentioned) condition (M = 2.18, SD = .96), b = .67, t = 8.43, p < .001, d = .74.

Expected Collaboration. We conducted a moderation model (PROCESS; Model 1) as the first step towards our mediated moderation model. The effect of both the indifference expression (b = -1.07, t = -10.85, p < .0001, 95% CI [-1.26, -.88]) and the cooperative intention (b = .79, t = 8.04, p < .0001, 95% CI [.59, .99]) were significant. As predicted, the interaction was also significant, b = .64, t = 3.24, p = .001, 95% CI [.25, 1.03]. Results showed that the effect of the indifference expression manipulation on expected collaboration of the counterpart was stronger when cooperative intentions were not stated (b = -1.40, t = -9.84, p < .0001, 95% CI [-1.68, -1.12] compared to when they were (b = -.76, t = -5.59, p < .0001, 95% CI [-1.03, -.49], even though both simple effects were significant.

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9 In addition, we observed a main effect of indifference expression, b = -.84, p < .001, as well as an interaction, b = .62, t = 3.87, p < .001, 95% CI [.30, .93]. Once again, this result supports our broader claim that indifference expressions convey information about the expresser’s cooperative intentions.

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Cooperation. We observed a significant main effect of the cooperative intention manipulation on participants’ own cooperative behavior, such that participants cooperated more with counterparts who stated their cooperative intentions than with counterparts who did not \((b = .32, t = 2.14, p = .03, 95\% \text{ CI} [.03, .62])\). There was no significant main effect of indifference expression \((b = -.005, t = -.03, p = .97, 95\% \text{ CI} [-.30, .29])\), and no interaction \((b = .08, p = .79, 95\% \text{ CI} [-.51, .68])\). However, based on our pre-registered model, we proceeded to test whether indifference expressions predicted participants’ cooperative behavior via their expectations regarding the counterpart’s collaboration, especially when no explicit cooperative intentions were stated (i.e., a moderated mediation effect).

Moderated mediation analysis. We conducted a moderated mediation analysis using PROCESS (Model 7; Hayes, 2013) to examine the effects of indifference expressions on cooperation via expected collaboration when direct information about the counterpart’s cooperative intentions was or was not provided. The analysis yielded a significant effect \((a*b = .24, 95\% \text{ CI} [.08, .43])\). Further probing showed that indifference expressions led to lower cooperation through reduced expected collaboration, and that this indirect effect was stronger when participants received no explicit information about their counterpart’s cooperative intentions \((a*b = -.53, SE = .12, 95\% \text{ CI} [-.78, -.30])\) compared to when they did receive such information \((a*b = -.29, SE = .08, 95\% \text{ CI} [-.46, -.15]; \text{Figure 7})\).

Figure 7. Moderated mediation model showing that the indirect effect of indifference on cooperation through expected collaboration was stronger in the absence (rather than the presence) of explicit cooperative intentions expressed by the counterpart.
Discussion

Once again, and in line with our predictions, indifference expressions reduced expectations of collaboration, which subsequently decreased cooperation as captured by a behavioral measure. This indirect effect was weakened when explicit information about the counterpart’s future cooperation was provided compared to when no mention of cooperation was made.

Internal Meta-Analysis

The results across studies are largely supportive of our predictions, but we observed some variation in the effect sizes and the statistical significance of some of the effects. Specifically, the effect of indifference expressions on expected collaboration of the counterpart was significant across all studies in which this measure was included (Studies 2-6). The direct effect of indifference expressions on participants’ cooperative intentions was significant in all studies in which it could be tested (Studies 2, 3, and 5), whereas the effect on participants’ behavioral cooperation was significant in Study 4, but non-significant in Study 5.

Note: Reported coefficients are unstandardized. * represents $p < .05$; ** represents $p < .01$
Study 6. The indirect effect of emotional indifference on cooperative intentions / behavioral cooperation through expected collaboration of the counterpart was significant in all studies in which this effect could be tested (Studies 2 – 4; Studies 5 and 6 within the no cooperative intentions condition). Thus, we found consistent support for effects on expected collaboration of the counterpart as well as for indirect effects on cooperation through expected collaboration of the counterpart, but evidence for direct effects of indifference expressions on cooperation (i.e., not through expected collaboration) was somewhat mixed. To obtain a more reliable estimate of the magnitude of this effect, we performed an internal meta-analysis (Goh et al., 2016).

We conducted an internal meta-analysis (Goh et al., 2016) to probe the size and reliability of the main effect of indifference expressions on cooperation across our experimental studies (Studies 2-6). For the sake of consistency (since different analyses were used in different studies) we used correlation effect sizes (r statistic). Furthermore, to enable comparisons with the (consistently significant) effect of indifference expressions on expectations regarding the counterpart’s collaboration, we included this effect as well. In support of our predictions (see Table 2), we found that overall, indifference expressions significantly reduced participants’ expectations regarding the counterpart’s collaboration as well as their own cooperation (assessed via cooperative intentions, behavioral cooperation, or combined). We take this as support for the robustness of our key effects across studies involving different samples, operationalizations, and methods.
Table 2

Meta-analysis of main effects of counterpart’s indifference (vs. neutral) expressions on participants’ expectations regarding the counterpart’s collaboration and participants’ own cooperation across Studies 2 – 6. Cooperative intentions and cooperative behavior are presented separately, as well as in a combined cooperation variable. For Studies 5 and 6 we included only participants in the condition in which the counterpart expressed no explicit cooperative intentions for the sake of consistency and comparability with the preceding studies.

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<th>Cooperation Total</th>
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<td>Effect of indifference expressions on cooperative intentions</td>
<td>Effect of indifference expressions on cooperation behavior</td>
<td>Effect of indifference expressions on cooperation total (intentions and behavior)</td>
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<td>188</td>
<td>$r = .55$</td>
<td>$p &lt; .001$</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>1550</td>
<td>$Z = 15.62$</td>
<td>$Z = 6.59$</td>
<td>1030</td>
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</tbody>
</table>

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General Discussion

We examined the effect of indifference expressions on cooperative intentions (Studies 2, 3, and 5) and behavioral cooperation (Studies 4 and 6) in social conflict. Study 1 indicated that people view indifference expressions as conveying a neutral message in conflict. Study 2 showed, however, that a counterpart’s expressions of indifference diminished participants’ cooperative intentions compared to positive (hope; Study 2a), negative (anger, contempt; Study 2a), and neutral (no emotion; Studies 2a and 2b) expressions by reducing expectations regarding the counterpart’s collaboration and, to a lesser degree, causing negative affective reactions. These affective reactions were captured via coding (Study 2a) and via self-report (general affect and discrete negative emotions; Study 2b). Study 3 was conducted in a lab setting where people prepared to engage in a face-to-face conflict with a counterpart. We replicated the negative effect of indifference expressions on cooperative intentions and expected collaboration, which again acted as a mediator. Additionally, we found that indifference expressions were experienced as aversive as indicated by changes in heart rate variability, but this physiological affective response did not serve as a mediator. Study 4 showed that negotiators were willing to bear a cost to avoid negotiating with a counterpart who expressed indifference about the conflict. Once again, the effect was mediated by diminished expected collaboration of the counterpart. In the final two studies we pre-registered our expected results. In Study 5 we demonstrated that the indirect effect of indifference expressions (vs. neutral expressions) on cooperative intentions through expected collaboration was reduced when the counterpart explicitly expressed their intention to cooperate. In Study 6 we replicated this moderated mediation model, showing that the indirect effect of indifference expressions (vs. neutral expressions) on cooperative behavior (operationalized as higher first offers; Aaldering et al., 2013) through expected collaboration was reduced when the counterpart explicitly expressed their intention to cooperate.
Overall, our research shows that although expressing indifference may be perceived as conveying a neutral message in conflict, indifference expressions can harm conflict resolution by fueling inferences in observers that the expresser is unlikely to collaborate, which in turn reduces their own cooperative intentions and behaviors.

**Theoretical and Applied Implications**

Our research makes several theoretical contributions. First, it opens a new avenue of inquiry into the social effects of indifference expressions, which have hitherto not received systematic attention. In the current investigation, we examined these effects in the context of interpersonal conflict within non-close relationships. Our work informs and corresponds with existing work on conflict management, such as dual concern theory (De Dreu, 2010; De Dreu et al., 2001; Pruitt & Rubin, 1986), which categorizes strategies for conflict resolution based on dimensions of concern for self (high vs. low) and others (high vs. low). Based on our definition of indifference as an explicit non-emotional response to an emotional stimulus, experiencing indifference would likely serve as an antecedent of avoidant strategies, showing low concern overall, both for the self and for others (Grant, 2007). Previous literature indicates that such avoidance strategies are associated with behaviors that hinder collaboration and conflict resolution in everyday or workplace conflicts (Behfar et al., 2008; De Dreu & Van Vianen, 2001). Behaviors such as ignoring or suppressing the conflict and its underlying causes, making unilateral decisions, and stalling processes in order to not address the conflict, constitute a non-constructive strategy, because they do not benefit either side (Rubin et al., 1994). Moreover, ignoring issues at the core of the conflict can, over time, cement negative practices and preserve injustices on the one hand (Tjosvold, 2008), or build resentment, and erupt through other avenues on the other (Chen & Tjosvold, 2002). Having said that, we focused on indifference expressions specifically, which adds to the literature because of their “emotional” component. We drew upon EASI theory (Van Kleef, 2009,
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Second, whereas EASI theory (Van Kleef, 2009) has been previously applied to a plethora of positive, negative, and complex (e.g., ambivalent; Rothman & Northcraft, 2015) emotional expressions in conflict (Van Kleef & Côté, 2018) and in social life more generally (Van Kleef & Côté, in press), it has not yet been applied to expressions of indifference. Our research thus extends the scope of EASI theory empirically by demonstrating that expressions of indifference can be meaningfully analyzed and understood through the lens of EASI theory. We applied a core principle of EASI theory (Van Kleef, 2009) and tested two mechanisms underlying the effect of indifference expressions on observers, namely, expected collaboration (an inferential process) and negative affective reactions (an affective process). In Study 2, we found that whereas affect (coded by external coders in Study 2a; self-rated negative affect and emotions in Study 2b) and expected collaboration mediated the effect of indifference expressions on cooperative intentions, expected collaboration was a stronger mediator. In Study 3, we found a significant reduction in HF-HRV as a physiological proxy to negative affective responding. However, negative affect did not mediate the effect of indifference expressions on cooperative intentions. Relatedly, our findings resonate with previous findings on mind perception (Epley & Waytz, 2010; Wegner, 2002), which examines inferences regarding various entities’ mental state (such as people Gray et al., 2007; groups Cooley et al., 2017; and organizations Rai & Diermeuer, 2015) and associated responses to behavior. Based on this framework, indifference would signal high agency and low experience, and would therefore elicit negative reactions (Gray et al., 2012). Overall, we conclude that in non-close relationship conflicts, such as the ones examined here, inferential processes are important for understanding the interpersonal effects of indifference expressions on cooperation, perhaps more so than affective reactions. This finding resonates with EASI theory’s argument that people pay more attention to emotional expressions in ambiguous situations, such as mixed-motive conflict (Van Kleef, 2016).
the effects of indifference expressions are driven by inferential processes, they would be expected to diminish when inferential processing of the expressions is reduced by providing explicit information about cooperative intentions, a prediction we tested and substantiated in Studies 5 and 6.

Third, the current results contribute to emerging insights into the social effects of emotions across different expressive modalities. The literature on non-verbal affective communication focuses on varying emotional expressions, including facial expressions (Ekman & Friesen, 1969), posture (Kleinsmith & Bianchi-Berthouze, 2007), and tone of voice (Scherer, 1989). However, examinations of indifference expressions have thus far been few and far between, particularly within the realm of social interactions and processes. We partly relied on previous work on non-verbal manifestations of arousal and non-arousal states (Dael et al., 2012; Riskind, 1984) to inform our operationalization of indifference expressions. In Studies 2, 4-6 we used verbal, written messages (both as part of a fictional scenario in Studies 2 and 5, and as a seemingly real message from another participant in Study 6). Study 3 utilized both verbal and nonverbal (e.g., posture, eye contact) communication to convey indifference. The consistent effects we observed across these different operationalizations are in line with theoretical arguments (Van Kleef, 2017) and an extensive review of the literature (Van Kleef & Côté, in press) indicating that the social effects of emotions are “functionally equivalent” across expressive modalities in that the effects of emotional expressions emitted through different expressive channels (e.g., face, voice, body, words) are similar in direction (although not necessarily magnitude).

Finally, our findings have applied relevance. The current results demonstrate the stark contrast between lay perceptions regarding the use of indifference expressions as strategically functional (conveying a ‘poker face’; Thompson et al., 2001), further evidenced in Study 1, and their influence on actual outcomes. In expressing indifference, individuals may wish to
relay a calm, powerful, and controlled appearance in order to extract cooperation and gain value, but our data indicate that expressing indifference has adverse consequences. Our findings could potentially be used to inform practitioners, instructors, and consultants in fields such as negotiation, conflict resolution, and mediation, to discuss the detriments of indifference expressions and caution against providing such advice.

Limitations and Future Research

Our research is not without limitations, which can be used to inform future research directions. First, a number of limitations are associated with the context of conflict we used. Our findings evidence consistent effects across different work-related settings, suggesting the findings may generalize to small-scale interpersonal conflicts in non-close relationships. However, we did not consider close relationship conflicts here, and can therefore not know whether our findings generalize to such settings. This should therefore be explored more widely in future work. Furthermore, our studies were conducted online and in a controlled lab setting, with indifference expressed by a stranger in the context of a new relationship. Consequently, we did not not account for the richness of many real-life conflicts in terms of content or history. Future work should expand the scope in various possible directions, including high-stake intergroup conflicts and close relationships. Extreme conflict situations are conducive to extreme and often unique attitudes, emotions, and behaviors (Bar-Tal, 2013; Halperin & Reifen-Tagar, 2017), and they often involve parties with asymmetrical power (Saguy et al., 2009). It is possible that in such extreme settings, indifference expressions elicit different responses. Another future direction concerns the comparative strength of inferential (vs. affective) responses as a function of the type of conflict. It stands to reason that in close relationships, the importance of perceived regard and emotional investment (Butler & Randall, 2012; Reis, 2014; Rusbult & Buunk, 1993) may increase the indirect effect of indifference expressions through negative affective responses (vs. inferential responses), and
particularly those related to low relational value and unreciprocated responsiveness and care, such as hurt and disappointment.

Second, our samples were made up mostly of WEIRD participants (Western, Educated, Industrialized, Rich, and Democratic; Henrich et al., 2010). Although Study 3 included a more diverse sample of participants in terms of cultural background, we did not account for cultural differences, which was beyond the scope of this paper. It is possible that, similarly to other emotions and emotional expressions, indifference too holds different meanings in different cultures (Cordaro et al., 2018), which could potentially change the effects. Relatedly, it is vital to probe further potential moderators of the adverse effects of indifference expressions. We found an interaction effect of explicit cooperation expressions (which substantiated our hypothesized mechanism of expected collaboration). However, additional moderators such as personality traits (Bono et al., 2002) and conflict stage (Kriesberg, 2003) may serve as important boundary conditions, which may lead to varying effects of indifference expressions on cooperation. Our effects may also be limited to situations where observers of the indifference expression see a way out of the conflict. Being forced to reach an agreement might increase concessions in response to expressions of indifference precisely because these suggest that the other will not make a concession. On the other hand, there may be contexts in which indifference expressions may convey a lack of preference that could be welcomed by observers, since it means that they are free to implement their preferred solution with no regard for the counterparty’s preferences. One possibility is that indifference expressions would be welcomed by observers in situations in which no active cooperation from the expresser is required in order for the target to attain their goals. On the other hand, a low-power party in an asymmetrical conflict (Coleman, 2014) may perceive the other side’s indifference as a resource (Nadler & Shnabel, 2015; Noor et al., 2012) to gain more value and control undisturbed.
Third, it would be interesting to connect the present findings with adjacent literatures in future research. One possibility is to examine the association and effects of indifference expressions with related constructs such as emotional suppression (Gross, 2008). Experiencing indifference would not involve an emotional response in the first place (or a very limited response), and its expression is targeted at another person rather than changing one’s own emotional experience. However, in light of previous work (Butler et al., 2003; Gross, 2002; Uchino et al., 1996) showing the importance of emotional cues indicating social support, it would be interesting to compare the effects of emotional suppression to explicit expressions of indifference on attitudes and social responses in observers. Relatedly, our dependent variables of cooperation leave room for future development. In this research we examined conflict contexts in which parties could not walk away without costs to both sides (leading to a negative BATNA, or a WATNA; Worst Alternative To A Negotiated Agreement; Brett, 2014, 2017). However, none of our studies presented extremely consequential outcomes to participants themselves. It will be important to study the influence of potential negative consequences to establish the generalizability and possible boundary conditions of our results. For instance, future work could tease apart different types of non-cooperation outcomes, which could include disengagement, competing or forcing strategies, and punishment (covert or overt retaliation). This would contribute to an understanding of the underlying reason(s) for choosing to dissolve the relationship, which may be to simply not be in contact with the other person anymore (pure avoidance), to punish them, or both.

Lastly, although we found indifference expressions to be detrimental to cooperation and conflict resolution, we did not examine ways in which these negative effects can be overcome. Future work should investigate ways to counter the effects of indifference expressions, both in the lab and in the field. This is particularly important in light of our finding that the use of indifference expressions, although harmful in social conflict, is not

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uncommon. One possible approach to counteracting the harmful effects of indifference expressions is suggested by Studies 5 and 6, in which the negative effect of indifference expressions was weakened when explicit cooperation intentions were relayed. A more direct approach would be to instruct negotiators to refrain from expressing indifference in the first place, or at least to make them aware of the possible disadvantages of indifference expressions.

Conclusion

Although people may perceive expressing indifference as conveying a neutral message in social conflict, our research indicates that indifference expressions jeopardize conflict resolution by diminishing cooperation in targets. Indifference expressions fueled inferential judgements (reduced expected collaboration; Studies 2-5) and affective reactions (coded negative affect, self-reported negative emotion, and heart rate variability; Studies 2 and 3) in counterparts that may stand in the way of constructive conflict management. Inferential processes, in particular, accounted for the observed detrimental effects of indifference expressions on cooperation. Overall, our results demonstrate that, rather than giving expressers an edge, expressions of indifference constitute a potential barrier to the successful resolution of social conflict.
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