


Making Intergroup Contact More Fruitful: Enhancing Cooperation Between Palestinian and Jewish-Israeli Adolescents by Fostering Beliefs About Group Malleability

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Abstract

For decades, increasing intergroup contact has been the preferred method for improving cooperation between groups. However, even proponents of this approach acknowledge that intergroup contact may not be effective in the context of intractable conflicts. One question is whether anything can be done to increase the impact of intergroup contact on cooperation. In the present study, we tested whether changing perceptions of group malleability in a pre-encounter intervention could increase the degree of cooperation during contact encounters. Jewish and Palestinian-Israeli adolescents ($N = 141$) were randomly assigned either to a condition that taught that groups are malleable or to a coping, control condition. During a subsequent intergroup encounter, we used two behavioral tasks to estimate the levels of cooperation. Results indicated that relative to controls, participants in the group malleability condition showed enhanced cooperation. These findings suggest new avenues for enhancing the impact of contact in the context of intractable conflicts.

Keywords

intergroup relations, conflict resolution, emotion, contact

The toll of intractable conflicts is astounding. Millions have died as a result of these conflicts, and many more are at risk of losing their lives, homes, or livelihoods (United Nations High Commissioner for Refugees, 2015). While intractable conflicts may be influenced by objective disagreements, they are fueled by psychological factors that reduce the ability of both sides to engage in cooperative efforts. Finding ways to attenuate these psychological risk factors—and thereby increase the chance of cooperation—is therefore increasingly acknowledged to be a high priority.

One approach to this problem is suggested by the literature on intergroup contact (Allport, 1954; Pettigrew & Tropp, 2006; Williams, 1947). Intergroup contact may occur in various ways. It may take the form of intergroup friendships (Davies, Tropp, Aron, Pettigrew, & Wright, 2011), spontaneous encounters (Shtern, 2016), or it may be organized by a third party which facilitates the encounter, as in the case of the current study (Maoz, 2011; Tropp, 2015). All of these types of encounters have been shown to contribute to the improvement in intergroup relations (Davies et al., 2011; Pettigrew & Tropp, 2000, 2006, 2008). However, most of these studies have examined contact in the absence of active intergroup conflict or during

reconciliation (Tropp, 2015; Wagner & Hewstone, 2012). Therefore, an important question is whether contact can be useful in increasing cooperation between groups in intractable conflicts.

Although there has been a growing number of studies that present a critical approach to contact in conflicts using qualitative data (see Abu-Nimer, 2004; Halabi & Sonnenschein, 2004; Maoz, 2011), we currently have little quantitative evidence regarding the efficiency of contact in intractable conflicts (Maoz, 2011; Tropp, 2015). Therefore, an alternative way to evaluate the potential efficiency of contact in conflicts is by examining whether the situational factors necessary for a productive contact encounter usually occur in intractable conflicts. Four situational factors seem to lead to better contact

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encounters (Allport, 1954; also see Dovidio, Gaertner, & Kawakami, 2003). These are the potential for cooperation (Blanchard, Weigel, & Cook, 1975), equal status within groups (Brewer & Kramer, 1985; Saguy, Dovidio, & Pratto, 2008), the existence of mutual goals (Brewer, 1996; Pettigrew & Tropp, 2006), and the existence of norms or structural support for the encounter (Miller, Smith, & Mackie, 2004; Samii, 2013). Unfortunately, these conditions are often absent in cases of intractable conflicts (Bar-Tal, Halperin, & De Rivera, 2007; Kelman, 1999). This makes conflicts an especially challenging context for contact interactions.

Even though the situational factors of contact encounters are not well suited for conflicts, their perception and interpretation could be altered by changing key psychological mechanisms (Dovidio et al., 2003; Tropp, 2015). In the current project, we targeted the notion of perceived potential for cooperation due to its importance to the success of the encounter (Brewer, 1996) and its high amenability to change compared to other situational factors. Previous work on contact encounters has suggested that participants' willingness to interact with the other side is dependent on the belief that the other side can change (Halperin et al., 2012). However, merely telling participants in an intractable conflict that the other side is malleable may lead to reactance, as it contradicts participants' narratives and collective ethos (Bar-Tal, Raviv, Raviv, & Dgani-Hirsh, 2008). Therefore, one way to bypass such reactance is by changing general beliefs regarding groups' capability of change. This is done with the hope that these context-independent beliefs will be activated during the specific encounter (Halperin, Cohen-Chen, & Goldenberg, 2014). This method has the advantage of not evoking the reactance that some context-dependent interventions may elicit.

The idea of perceived malleability—often defined as incremental mind-sets—originated from the literature on individual motivation in schools (Dweck, 2000, 2012). Children who held an incremental mind-set were more motivated to confront academic challenges efficiently and therefore succeed in school. This idea has been examined in the interpersonal domain, showing that people with incremental mind-sets are less likely to show aggression toward others (Chiu, Dweck, Tong, & Fu, 1997; Yeager, Trzesniewski, & Dweck, 2013). Extending these ideas to intergroup relations, beliefs that groups are malleable have been associated with positive changes in attitudes and increased willingness to make concessions in order to reach a mutual agreement (Halperin, Russell, Trzesniewski, Gross, & Dweck, 2011; Halperin et al., 2012) and even with increased willingness to participate in a planned contact encounter (Halperin et al., 2012). Examining how changes in group malleability effect not only willingness to participate in contact but also actually the effectiveness of the contact encounter is a potentially important extension of the current work.

Our primary hypothesis is that changing participants' perception of group malleability will increase the potential for cooperation during the contact encounter. In addition, we explore potential mechanisms for the process by focusing on the experience of intergroup emotions during the encounter.

Negative emotions (and lack of positive emotions) play an important role in conflicts by shifting attention to negative aspects of the outgroup and intensifying negative attitudes toward the other side (Halperin, 2014, 2015). Furthermore, people are highly sensitive to others' emotional expressions (Averill, 1980; Manstead & Fischer, 2001; Parkinson, 2011). Therefore, sensing negative emotions from the outgroup can have a destructive effect on the atmosphere and can decrease cooperation during the encounter. Our secondary hypothesis is therefore that changing perception of group malleability will also lead to increased intergroup positive emotions and decreased negative emotions. In light of these considerations, the goal of the current study was to examine whether a pre-encounter intervention focused on changing perceptions of group malleability could increase cooperation between the two opposing sides in a contact encounter and improve intergroup emotions. In the context of the Israeli-Palestinian conflict, we conducted a pre-encounter intervention among Jewish-Israeli and Palestinian-Israeli middle school students. Adolescent contact workshops are common in Israel (Maoz, 2002, 2011) and are especially suitable for pre-encounter interventions, as they can be easily implemented in the classroom prior to the encounter. Furthermore, previous research suggests that early adolescents tend to take more ethnocentric views and be more extreme and less complex in their judgments (Bar-Tal & Labin, 2001) but also more amenable to change (Dahl, 2004). Therefore, this period provides a great opportunity for impact.

Method

Participants

We recruited participants from two schools, a Palestinian-Israeli school and a Jewish-Israeli school. School principals were told that they would be participating in study that was designed to examine the influence of pre-encounter interventions on encounters between Jewish and Arab students. The principals were not aware of the specific goals of the study. Our participant number was bounded by the schools' enrollment. Therefore, we set our lower limit to 30 participants in each condition. However, as we anticipated that some participants would drop out during the three-meeting intervention, we decided to aim for an initial recruitment number of 40 per condition for each ethnic group. Our initial recruitment included 160 eighth- and ninth-grade students who took part in the workshops as part of an organized school activity. We omitted all participants who did not attend either the fourth encounter, in which the actual intergroup contact occurred (16 participants, 6 in the group malleability condition and 6 in the coping condition), or both meetings two and three, in which the intervention content was the focus (3 participants). This resulted in a sample of 141 participants, 74 Jewish-Israelis (45 females and 29 males, 39 in the coping group and 35 in the malleability group; age: $M = 13.89$, $SD = 0.83$) and 67 Palestinian-Israelis (40 females and 27 males, 31 in the coping group and 36 in the malleability group; age: $M = 13.94$, $SD = 0.66$).

Procedure

Students in both schools were randomly assigned to one of the two conditions: a group malleability condition or a coping skills condition, which served as a control condition. We chose to use a coping skills workshop as our control condition, with the goal of teaching the participants useful skills while keeping the content of the workshops far removed from the notion of group malleability. Such a strategy has been recently used in a perceived malleability intervention with adolescents (Yeager et al., 2013). Participants in both conditions were told that they would participate in an encounter with outgroup students, and prior to that encounter, they would undergo a series of leadership workshops. Leadership was chosen as a focus to provide a relevant and appealing framework for participants. Workshops were pretested in order to make sure that the intervention content was clear and that participants found the workshops both interesting and helpful.

The workshops included four meetings, three pre-encounter workshops and an intergroup planned encounter. The pre-encounter workshops were 1.5-hr-long sessions, which were conducted within each school. Workshop facilitators were 18- to 23-year-old volunteers (four Jewish-Israeli and four Palestinian-Israeli, age: $M = 19.75$, $SD = 1.92$) who were recruited using a snowball method in which recruited facilitators were involved in recruiting other facilitators. The facilitators volunteered to join the project due to their belief in its potential contribution to Israeli and Palestinian societies. We conducted three condition-specific training sessions for facilitators in each condition, keeping the facilitators blind to the specific goals of the study.

The first meeting was identical in both conditions and included introduction games and general leadership content using Bass's framework of transformational leadership (Bass, 1985). The decision to open the intervention with leadership content was made for two main reasons. First, leadership is a relatively broad concept that is compelling for most people. Our hope was that mentioning leadership would increase participants' motivation to engage in the workshops. Second, disguising the purpose of the workshop can contribute to the reduction of both demand characteristics and reactance. Starting in the second meeting, the content of each workshop differed in accordance with the specific condition. During the second meeting, participants in the incremental condition were introduced to the notion of being a relevant leader, which was defined as the ability to identify and utilize personal and group change. Inspired by the classical mind-set manipulations (Dweck, 2006), we used the notion of brain plasticity to exemplify the biological possibility of change. These ideas served as a base for discussing the ways in which a relevant leader can utilize these changes. In the third meeting, participants learned about changes that occurred in groups throughout history and about leaders like Gerry Adams and Martin Luther King Jr. who believed in groups' ability to change, identified these changes, and were able to amplify these changes.

In the coping condition, the second session started by exploring the potentially destructive impacts of stress on leaders who are required to make decisions on a regular basis. These impacts were divided into physiological, cognitive, and affective effects of stress. Participants were then given a few strategies for coping with stress such as breathing, self-talk, and meditation. During the third session, participants learned about leaders who successfully coped with stress and were able to positively influence the unfolding of collective events. We used the same leaders as in the incremental condition, and only this time, the focus was on these leaders' ability to cope with stressful situations.

Approximately 2 weeks after the third pre-encounter workshops, Jewish-Israeli and Palestinian-Israeli participants in each condition met in a college in the center of Israel for a 2.5-hr-long encounter. The encounter meeting was separate for participants in each condition. During this meeting, participants were divided into mixed teams of 4–6 participants, 15 in the incremental condition and 18 in the coping condition, with the intention of keeping both the gender and ethnic composition across the teams as similar as possible. Each team had at least two members from each ethnic group. In this fourth session, participants first performed various introduction activities and were then asked to complete tasks in various domains, with cooperation being the target measurement. At the end of the contact session, participants' evaluation of the encounter was measured in Arabic (for the Palestinian-Israeli teams) or in Hebrew (for the Jewish-Israeli teams).

We used external observers to evaluate success in the tasks during the encounter. The observers were 22 college students (age: $M = 21.54$, $SD = 3.70$, 15 males and 7 females) who were recruited in college using advertisement in exchange for 150 Israeli Shekel (ILS; ~US\$40). Seventeen of the observers were Jewish-Israelis and five were Palestinian-Israeli (mirroring the demographical distribution in the college from which the observers were drawn, ethnicity of the observers was controlled for in the analyses below). All observers spoke fluent Hebrew (despite ethnic differences, all were students in a Hebrew-speaking college), as did all participants, which was the language in which the encounter was conducted. Each observer evaluated—one to two teams (concurrently) during the encounter session. The observers were blind to the different conditions of the study.

Two cooperation tasks were used. In the *circle task*, nonverbal cooperation was examined. Each team was organized around a circle marked by a rope. Cards with numbers 1–30 were spread inside the circle. Participants were asked to enter the circle one at a time and touch a number, counting up from 1 to 30. Only one participant could enter the circle each time and touch a single number. Participants were not allowed to talk during the task. Every time more than one person entered the circle at the same time, the team had to start the task all over again. The circle task provides a way to examine the quality of participants' nonverbal interaction and their ability to come up with a team plan under time pressure. Participants' time to completion was measured.

In the second cooperation task, *the tower task*, participants were given a few materials such as spaghetti, marshmallows, and tape and were asked to build the tallest tower possible in 10 min. The height of the tower was measured. The tower task is a known group dynamics task (Wujec, 1995), which allows the examination of cooperative planning and communication.

To evaluate the major hypothesis of the study, we examined participants' performance in the cooperation tasks. In the tower task, four teams (three in the group malleability condition, one in the coping condition) did not have a tower standing when the time was up and were included in the analysis with the value of 0. In the circle task, observers were asked to time participants' completion of the task in seconds. Data from two teams were missing from the analysis due to lack of observer ratings (one from each condition). We collapsed the standardized scores of both tasks (circle task and tower task). During the contact encounter, participants performed tasks in small teams of 4–6 participants (separated for each condition). Each small team's performance was evaluated by the external observer. Therefore, the smallest unit of analysis for these tasks is each small team.

Measures

Manipulation check. Participants' perception of the malleability of groups in general was measured by a 3-item, 6-point Likert-type scale which was adapted from Halperin and colleagues' work (2011) and was slightly changed to better fit the age of the participants (*Every nation or group has fixed values and beliefs that cannot be significantly changed; Groups cannot change who they really are; Groups will never change as their characteristics are deeply embedded in them, $\alpha = .80$*). Perceived group malleability was examined before the first session and at the end of the fourth session. This measure served as a manipulation check.

Cooperative behavior. As noted above, *task performance* on each of the two cooperation tasks was measured. In the *circle task*, participants' time to completion was measured by the observers. In the *tower task*, the height of the tower was measured by the observers. Results in both tasks were standardized. In addition, as success in the circle task was indicated by lower results (shorter completion time) and success in the tower task was indicated by higher results (height), we reverse scored the ratings of the circle task, so that high numbers would indicate success in both tasks.

Observers' ratings of emotions. On the assumption that more cooperative teams would also show more positive and less negative effect, we used observers' ratings of participants' emotions to capture the emotional expressions within each working team as a secondary measure. Positive and negative emotions were separately reported after each task by each workshop observer using two, 6-point Likert-type items ranging from 1 (*not at all*) to 6 (*very much so*). One item focused on positive emotions (*To what extent did the relationship*

between the Arab and Jewish students in this task include expression of positive emotions such as affection and happiness). Another item focused on negative emotions (*To what extent did the relationship between the Arab and Jewish students in this task include expression of negative emotions such as fear, disgust, or anger*). The 2 items strongly negatively correlated, $r(30) = -.62, p < .001$. We therefore combined these items into one scale by reversing the negative emotions' item and averaging it with the positive emotions item. High numbers indicated more positive and less negative emotions.

Participants' overall emotions. In addition to observers' evaluations of the emotional expressions during each task, participants were asked to indicate their overall emotions toward the outgroup at the end of the encounter using two, 6-point Likert-type items ranging from 1 (*not at all*) to 6 (*very much so*). One item focused on positive emotions (*I felt positive emotions toward the Jewish/Arab participants such as affection and happiness*). Another item focused on negative emotions (*I felt negative emotions toward the Jewish/Arab participants such as fear, disgust, or anger*). The 2 items negatively correlated, $r(139) = -.29, p < .001$, and were combined to a single measure similar to the items that were filled by the observers. All measurements were taken in participants' native language.

Data Analysis

We conducted the analyses using *R* statistical software, Version 3.3.0. All of our repeated measures were done using a mixed-model analysis. We report 95% confidence intervals in brackets as well as *p* values using the package *lmerTest*, Version 1.0 (Kuznetsova, Brockhoff, & Christensen, 2013). In addition, we transformed *t* values into correlation coefficients to convey the strength of relationships.

Results

Preliminary Analyses

Demographic differences. We first tested for demographic differences between the Palestinian-Israeli and Jewish-Israeli participants across conditions. We found that there were no significant differences in terms of participants' age, $b = .08 [-.16, .34], SE = .12, t(140) = .67, p > .250$, or gender, $b = -.21 [-.89, .46], SE = .34, t(140) = -.62, p > .250$. We then examined differences in demographics between participants in the two conditions (group malleability vs. coping) and found no difference in participants' age, $b = .12 [-.15, .35], SE = .12, t(140) = .98, p > .250$, or gender, $b = -.07 [-.73, .57], SE = .33, t(140) = -.23, p > .250$. Finally, we examined demographic differences between ethnic groups within each condition. No differences in age were found between Palestinian-Israeli and Jewish-Israeli participants, either in the coping condition, $b = .00 [-.38, .38], SE = .19, t(68) = -.01, p > .250$, or in the group malleability condition, $b = .08 [-.24, .35], SE = .17, t(69) = .49, p > .250$. No differences were found in participants' gender either in the coping condition,

$b = -.02 [-.26, .20]$, $SE = .11$, $t(69) = -.23$, $p > .250$, or in the group malleability condition, $b = .01 [-.22, .29]$, $SE = .11$, $t(70) = .10$, $p > .250$.

Differences related to observers' ethnicity. During the fourth encounter, observers rated participants' emotions for each task. Based on the notion that power difference may affect the ways in which people experience contact encounter (Saguy et al., 2008), we examined difference in observers' ratings based on their own ethnic background. We collapsed emotion evaluations in both tasks and conducted a mixed-model analysis examining the interaction between condition (incremental vs. coping) and observers' ethnicity as a fixed factor predicting participant observed emotions in both tasks. As the minimal group for the analysis was the small work teams (4–6 participants in each team), we used the team number as a random intercept. Results suggested that Palestinian-Israeli observers rated the interaction between participants as more positive on the emotions scale compared to the Jewish-Israeli observers, $b = .75 [.28, 1.22]$, $SE = .25$, $t(31) = 3.13$, $p = .01$, effect size (ES) $r = .5 [.16, .73]$. Importantly, however, there was no interaction between observers' ethnic background and condition, $b = -.29 [-.79, 1.24]$, $SE = .53$, $t(29) = -.50$, $p > .250$. In light of these results, we controlled for observer's ethnic identity in our primary analysis.

Manipulation check. Participants' perception of group malleability was measured before the first and after the fourth session. In order to examine the effect of the manipulation on each of the two ethnic groups across time, we used a mixed-model analysis. As fixed variables, we used a three-way interaction between time (Sessions 1 and 4), condition (incremental vs. coping), and ethnic group (Jewish-Israelis vs. Palestinian-Israelis) on perception of group malleability. In addition, we included participants intercept as a random variable. Results indicated a nonsignificant three-way interaction, $b = .08 [-.02, .18]$, $SE = .05$, $t(138) = 1.62$, $p = .11$, suggesting no differences in the effects of the manipulation over the two ethnic groups. We then examined the interaction between time and condition in order to make sure that perception of group malleability changed only for the group malleability group. As expected, results indicated a significant interaction between time and condition, $b = .21 [.11, .31]$, $SE = .05$, $t(138) = 4.21$, $p < .001$, ES $r = .33 [.18, .47]$. Examination of the change in each condition over time indicated no change in participants' perception of group malleability in the coping condition, $b = .06 [-.07, .20]$, $SE = .07$, $t(137) = .89$, $p = .37$. However, in the group malleability condition, change in the perception of group malleability increased significantly over time, $b = .49 [.35, .64]$, $SE = .07$, $t(138) = 6.84$, $p < .001$.

Primary Analyses: Impact on Cooperative Behavior

To evaluate the major hypothesis of the study, we examined participants' performance in the cooperation tasks. We conducted a mixed-model analysis, comparing the incremental

Table 1. Group Averages and Standard Deviations for Each of the Dependent Variables.

Condition	Observers' Ratings			Participants' Rating
	Tower Task (Height in cm)	Circle Task (Time in s)	Emotions	Emotions
Incremental	51.00 (28.74)	36.21 (24.52)	3.32 (.58)	4.85 (.69)
Coping	32.66 (24.21)	50.10 (23.79)	2.71 (.44)	4.69 (.94)

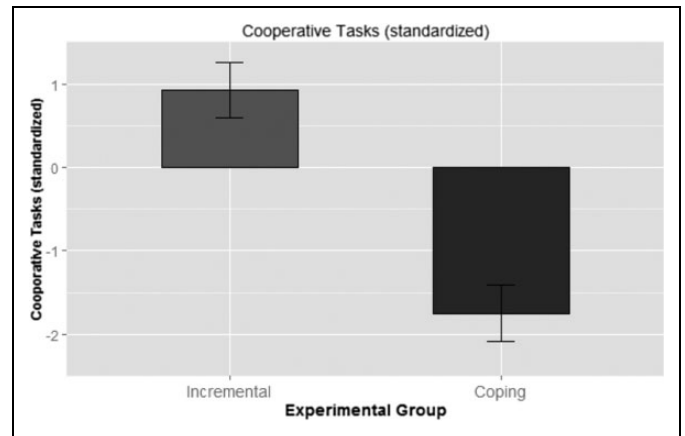


Figure 1. Task completion in the cooperative tasks (the tower and circle tasks) during the intergroup encounter as a function of experimental group (whether participants learned an incremental theory of groups or coping skills in the workshop sessions prior to the intergroup encounter). Results from both tasks were standardized and combined.

with the coping condition as fixed factors and using the teams' intercept as a random variable. In addition, we controlled for observers' ethnic identity based on our preliminary findings (see Table 1 for means and standard deviations). Results indicated a significantly higher score on the two tasks combined for the incremental condition compared to the coping condition, $\beta = .75 [.28, 1.22]$, $SE = .24$, $t(61) = 3.13$, $p = .01$, ES $r = .37 [.13, .57]$, see Figure 1. Breaking the measurements into each task indicated that participants in the group malleability condition ($M = 51.00$, $SD = 28.74$) were able to build towers that were 59% higher compared to the coping condition, $M = 32.66$, $SD = 24.21$, $b = 29.92 [7.93, 51.90]$, $SE = 10.73$, $t(26) = 2.78$, $p = .01$, ES $r = .49 [.11, .75]$. In addition, results indicated that participants in the group malleability condition ($M = 36.21$, $SD = 24.52$) completed the circle task somewhat more quickly than the coping condition, $M = 50.10$, $SD = 23.79$, $b = -13.98 [-29.11, 1.13]$, $SE = 7.37$, $t(27) = -1.89$, $p = .06$, ES $r = .35 [-.05, .66]$.

Secondary Analyses

Observers' ratings of emotions. A secondary hypothesis was that improved cooperation would be accompanied by more positive

intergroup emotions (and less negative emotions) during the intergroup encounter. To test this hypothesis, we collapsed observers' emotion evaluations across both tasks and conducted a mixed-model analysis comparing the two conditions (incremental vs. coping) and controlling for team size and observers' ethnic identity. As the minimal unit of analysis was the evaluation of small teams who completed the tasks, we used a by-team random intercept. Results indicated a significantly higher positive emotion score for the incremental condition compared to the coping condition, $b = .63$ [.17, 1.08], $SE = .23$, $t(62) = 2.69$, $p = .01$, $ES r = .33$ [.08, .54], supporting the finding of greater cooperation in the incremental condition.

Participants' self-reported emotions. Participants' self-report measures were assessed at the end of the contact encounter and therefore are available only for the encounter as a whole. Similar to the observers' ratings of emotions, participants' report of positive and negative emotions were combined to create an overall emotions scale, higher numbers indicating more positive emotions (and less negative emotions). Furthermore, in order to make sure that the manipulation did not affect the two ethnic groups differently, we tested the interaction between condition and participants' ethnic group on emotion ratings. Results indicated no interaction between condition and ethnic group, $b = -.08$ [-.22, .05], $SE = .07$, $t(136) = -1.20$, $p = .23$, suggesting that the manipulation influenced both ethnic groups in the same way. Looking at the main effect of the manipulation, results indicated a somewhat higher score for the group malleability condition ($M = 4.85$, $SD = .69$) compared to the coping condition, $M = 4.69$, $SD = 0.94$, $b = .15$ [-.01, .31], $SE = .08$, $t(136) = 1.84$, $p = .06$, $ES r = .15$ [-.01, .31].

General Discussion

Contact encounters have been established as a useful method for improving relationships between groups (Pettigrew & Tropp, 2006). However, their efficacy in the contexts of intractable conflicts is hindered by challenging situational barriers such as lack of potential cooperation. Therefore, thinking about ways to change the perception of these barriers before the encounter can increase the chance that it will achieve positive outcomes.

In the present research, we tested the hypothesis that changing participants' beliefs about group malleability in a pre-encounter intervention would enhance intergroup cooperation during the encounter. We found that such precontact interventions were indeed successful in increasing cooperation on two behavioral tasks. Furthermore, our secondary hypothesis was that success on these tasks would be accompanied by increased positive emotions (and decreased negative emotions) during the tasks. We found that success on these tasks was indeed accompanied by increased positive emotions for each task (as rated by external observers), and there was a trend toward more positive self-ratings of emotions on the part of participants at the end of the encounter. These results are encouraging given

the challenges that intractable conflicts present to contact encounters (Tropp, 2015).

Our findings have potentially wide-reaching implications for contact. We were able to improve intergroup cooperation for participants from two groups who are currently involved in active conflict, and we achieved this outcome by tackling participants' nonconflict-related beliefs regarding group malleability. Addressing general beliefs about groups rather than conflict-specific beliefs is useful as it can bypass the natural resistance of those who are involved in conflicts (Bar-Tal, 2013; Halperin et al., 2014). More generally, we introduce the notion of a separate, precontact intervention for each group. This idea can be extended to other precontact interventions, providing a further opportunity for future enhancement of the quality of these encounters and their outcomes.

We believe that our findings have wide applicability. Introducing the content of our workshops into schools may produce positive outcomes not only in planned intergroup interactions but also for more spontaneous interactions. In addition, examining the effect of these workshops on adults, who hold more stable opinions on the conflict, may provide an interesting opportunity for further understanding of the direct influences of such interventions. Furthermore, changing perception of group malleability as part of the training of professionals, like police officers, social workers, and doctors, among others, may improve their daily interactions with members of other groups.

Several limitations of the present research bear mention. First, our analyses focused on informal cooperative tasks between conflicting sides. It would be interesting to extend our findings to more consequential tasks, such as important collaborations or decisions. Second, the long-term effects of these interventions should be examined. In the future, it would be important to follow up with research participants to determine whether the increased ability to cooperate with outgroup members is sustained. Third, the incremental intervention was not compared to an empty control condition but rather to a coping condition. This was done in order to provide all participants a valuable experience. However, future studies should also compare the intervention with an empty control condition to examine the full extent of the effect. We hope that the current study opens the door for future investigation of these ideas, leading to changes in people's organized and spontaneous contact with members of other groups.

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References

- Abu-Nimer, M. (2004). Education for coexistence and Arab-Jewish encounters in Israel: Potential and challenges. *Journal of Social Issues, 60*, 405–422.
- Allport, G. W. (1954). *The nature of prejudice*. Cambridge, MA: Pegasus Books.
- Averill, J. R. (1980). A constructivist view of emotion. In R. Plutchik & H. Kellerman (Eds.), *Emotion: Theory, research and experience* (pp. 305–339). New York, NY: Academic Press.
- Bar-Tal, D. (2013). *Intractable conflicts: Socio-psychological foundations and dynamics*. Cambridge, England: Cambridge University Press.
- Bar-Tal, D., Halperin, E., & De Rivera, J. (2007). Collective emotions in conflict situations: Societal implications. *Journal of Social Issues, 63*, 441–460.
- Bar-Tal, D., & Labin, D. (2001). The effect of a major event on stereotyping: Terrorist attacks in Israel and Israeli adolescents' perceptions of Palestinians, Jordanians and Arabs. *European Journal of Social Psychology, 31*, 265–280.
- Bar-Tal, D., Raviv, A., Raviv, A., & Dgani-Hirsh, A. (2008). The influence of the ethos of conflict on Israeli Jews' interpretation of Jewish–Palestinian encounters. *Journal of Conflict Resolution*. doi:10.1177/0022002708325942
- Bass, B. M. (1985). *Leadership and performance beyond expectations*. New York, NY: Free Press.
- Blanchard, F. A., Weigel, R. H., & Cook, S. W. (1975). The effect of relative competence of group members upon interpersonal attraction in cooperating interracial groups. *Journal of Personality and Social Psychology, 32*, 519–530.
- Brewer, M. B. (1996). When contact is not enough: Social identity and intergroup cooperation. *International Journal of Intercultural Relations, 20*, 291–303.
- Brewer, M. B., & Kramer, R. M. (1985). The psychology of intergroup attitudes and behavior. *Annual Review of Psychology, 36*, 219–243.
- Chiu, C., Dweck, C. S., Tong, J. Y., & Fu, J. H. (1997). Implicit theories and conceptions of morality. *Journal of Personality and Social Psychology, 73*, 923–940.
- Dahl, R. E. (2004). Adolescent brain development: A period of vulnerabilities and opportunities. Keynote address. *Annals of the New York Academy of Sciences, 1021*, 1–22.
- Davies, K., Tropp, L. R., Aron, A., Pettigrew, T. F., & Wright, S. C. (2011). Cross-group friendships and intergroup attitudes: A meta-analytic review. *Personality and Social Psychology Review, 15*, 332–351. doi:10.1177/1088868311411103
- Dovidio, J. F., Gaertner, S. L., & Kawakami, K. (2003). Intergroup contact: The past, present, and the future. *Group Processes & Intergroup Relations, 6*, 5–21.
- Dweck, C. S. (2000). *Self-theories: Their role in motivation, personality, and development*. Philadelphia, PA: Psychology Press.
- Dweck, C. S. (2006). *Mindset: The new psychology of success*. New York, NY: Random House.
- Dweck, C. S. (2012). Mindsets and human nature: Promoting change in the middle-east, the schoolyard, the racial divide, and willpower. *American Psychologist, 67*, 614–622.
- Halabi, R., & Sonnenschein, N. (2004). The Jewish-Palestinian encounter in a time of crisis. *Journal of Social Issues, 60*, 373–387.
- Halperin, E. (2014). Emotion, emotion regulation, and conflict resolution. *Emotion Review, 6*, 68–76.
- Halperin, E. (2015). *Emotions in conflict: Inhibitors and facilitators of peace making*. Oxford, England: Routledge.
- Halperin, E., Cohen-Chen, S., & Goldenberg, A. (2014). Indirect emotion regulation in intractable conflicts: A new approach to conflict resolution. *European Review of Social Psychology, 25*, 1–31.
- Halperin, E., Crisp, R. J., Husnu, S., Trzesniewski, K. H., Dweck, C. S., & Gross, J. J. (2012). Promoting intergroup contact by changing beliefs: Group malleability, intergroup anxiety, and contact motivation. *Emotion, 12*, 1192–1195. doi:10.1037/a0028620
- Halperin, E., Russell, A. G., Trzesniewski, K. H., Gross, J. J., & Dweck, C. S. (2011). Promoting the middle-east peace process by changing beliefs about group malleability. *Science, 333*, 1767–1769. doi:10.1126/science.1202925
- Kelman, H. C. (1999). The interdependence of Israeli and Palestinian national identities: The role of the other in existential conflicts. *Journal of Social Issues, 55*, 581–600.
- Kuznetsova, A., Brockhoff, P. B., & Christensen, R. H. B. (2013). *lmerTest: Tests for random and fixed effects for linear mixed effect models (lmer objects of lme4 package)*. Retrieved from <http://CRAN.R-project.org/package=lmerTest>
- Manstead, A. S., & Fischer, A. H. (2001). Social appraisal: The social world as object of and influence on appraisal processes. In K. R. Scherer, A. Schorr, & T. Johnstone (Eds.), *Appraisal processes in emotion: Theory, research, application* (pp. 221–232). New York, NY: Oxford University Press.
- Maoz, I. (2002). Is there contact at all? Intergroup interaction in planned contact interventions between Jews and Arabs in Israel. *International Journal of Intercultural Relations, 26*, 185–197.
- Maoz, I. (2011). Does contact work in protracted asymmetrical conflict? Appraising 20 years of reconciliation-aimed encounters between Israeli Jews and Palestinians. *Journal of Peace Research, 48*, 115–125.
- Miller, D. A., Smith, E. R., & Mackie, D. M. (2004). Effects of intergroup contact and political predispositions on prejudice: Role of intergroup emotions. *Group Processes & Intergroup Relations, 7*, 221–237.
- Parkinson, B. (2011). Interpersonal emotion transfer: Contagion and social appraisal. *Social and Personality Psychology Compass, 5*, 428–439.
- Pettigrew, T. F., & Tropp, L. R. (2000). Does intergroup contact reduce prejudice? Recent meta-analytic findings. In S. Oskamp

- (Ed.), *Reducing prejudice and discrimination* (pp. 93–114). Mahwah, NJ: Lawrence Erlbaum Associates.
- Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology, 90*, 751–783.
- Pettigrew, T. F., & Tropp, L. R. (2008). How does intergroup contact reduce prejudice? Meta-analytic tests of three mediators. *European Journal of Social Psychology, 38*, 922–934.
- Saguy, T., Dovidio, J. F., & Pratto, F. (2008). Beyond contact: Intergroup contact in the context of power relations. *Personality & Social Psychology Bulletin, 34*, 432–445. doi:10.1177/0146167207311200
- Samii, C. (2013). Perils or promise of ethnic integration? Evidence from a hard case in Burundi. *American Political Science Review, 107*, 558–573.
- Shtern, M. (2016). Urban neoliberalism vs. ethno-national division: The case of west Jerusalem's shopping malls. *Cities, 52*, 132–139.
- Tropp, L. R. (2015). Dismantling an ethos of conflict: Strategies for improving intergroup relations. In E. Halperin & K. Sharvit (Eds.), *The social psychology of intractable conflicts* (pp. 159–171). New York, NY: Springer.
- United Nations High Commissioner for Refugees. (2015). *UNHCR population statistics database*. Retrieved from <http://popstats.unhcr.org/en/overview>
- Wagner, U., & Hewstone, M. (2012). Intergroup contact. In L. R. Tropp (Ed.), *Oxford handbook of intergroup conflict* (pp. 193–209). New York, NY: Social Science Research Council.
- Williams, R. M. (1947). *The reduction of intergroup tensions*. New York, NY: Social Science Research Council.
- Wujec, T. (1995). *Five star mind: Games and exercises to stimulate your creativity and imagination*. New York, NY: Random House.
- Yeager, D. S., Trzesniewski, K. H., & Dweck, C. S. (2013). An implicit theories of personality intervention reduces adolescent aggression in response to victimization and exclusion. *Child Development, 84*, 970–988.

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