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Comparing the effectiveness and durability of contact- and skills-based prejudice reduction approaches

Rony Berger^{a,*}, Alaina Brenick^b, Samantha E. Lawrence^b, Lila Coco^c, Hisham Abu-Raiya^c

^a Ben Gurion University of the Negev, Center Preparedness and Response to Disaster and Emergency Situations Research, P.O. 653, Beer-Sheva 84105, Israel ^b University of Connecticut, Department of Human Development and Family Studies, 348 Mansfield Rd., U-1058, Storrs, CT 06269-1058, USA

^c Tel Aviv University, Bob Shapell School of Social Work, Dr. George Wise St., Tel Aviv-Yafo 69978, Israel

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ABSTRACT

This investigation compared the efficacy and durability of two prejudice reduction approaches: social-emotional skills training and intergroup contact. 148 5th grade Palestinian-Israeli students in the ethnically-mixed city of Jaffa were randomly assigned to one of three conditions. Members of the skills-based classes engaged in activities that aimed to cultivate perspective-taking, empathy, and compassion; members of the contact classes met with Jewish-Israeli peers; and members of the control group engaged in a general social studies program. Outcomes were measured a week before, immediately after, and 6 months following completion of the program. Results showed that the effects of both interventions were significantly larger than of those of the control group; both interventions increased readiness for contact with, and decreased emotional prejudice, expectations about negative outgroup behaviors, and stereotyping of Jewish-Israeli peers.

1. Introduction

Stereotyping and prejudice, particularly between different ethnic groups, are widespread social phenomena that profoundly affect the safety, psychological development, and well-being of children (Save the Children, 2006). The adverse impacts of these negative intergroup attitudes on children include poor school achievement (Inzlicht, Tullett, Legault, & Kang, 2011), health problems (Taylor, 2015), behavioral difficulties (Tobler et al., 2013), social exclusion (Rutland & Killen, 2015), and compromised emotional growth (Schmitt, Branscombe, Postmes, & Garcia, 2014). In contexts of intractable conflict, such as that in the Middle East, stereotypes and prejudice in childhood can develop, by adolescence, into conflict-promoting narratives and delegitimization of the outgroup, including accepting violence directed toward that outgroup (Bar-Tal, Diamond, & Nasie, 2017).

In an attempt to prevent and reduce these negative intergroup attitudes, researchers have identified a variety of individual and social factors that influence stereotyping and prejudice, including intergroup contact (Pettigrew & Tropp, 2006), cross group friendships (Davies, Tropp, Aron, Pettigrew, & Wright, 2011), social norms (Abrams & Rutland, 2008), moral decision making (Killen & Rutland, 2011), development of social identity (Nesdale, 2007), classification abilities (Bigler & Liben, 2007), perspective-taking, and empathy skills (Smetana, 2006). The identification of these factors led to the proliferation of prejudice reduction and positive intergroup attitude promotion interventions (Beelmann & Heinemann, 2014; Paluck & Green, 2009). However, there has been a growing debate in the literature over which are the most important factors for changing children's emotional, cognitive, and behavioral intergroup attitudes (Killen & Rutland, 2011; Tropp & Mallett, 2011).

The present study provides an initial answer to this question by comparing the two most widely applied and effective intervention typesskills training and contact-based approaches (Aboud et al., 2012; Beelmann & Heinemann, 2014). To achieve this goal, 148 Palestinian-Israeli 5th grade students were divided into three groups: two treatment groups (i.e., contact- & skills-based training groups) and one control group (i.e., social studies group). Prejudiced intergroup attitudes were assessed using measures of readiness for social contact (i.e., motivational component), negative and positive intergroup feelings (i.e., affective component), expectations about negative outgroup behavior, and outgroup stereotypes (i.e., cognitive components), which were measured pre- and post-intervention, as well as at a 6-month follow up. Below, we briefly describe the different theoretical approaches to prejudice reduction and positive intergroup attitude promotion with children, outline the major intergroup programs used with contact- and skills-based interventions, and provide a developmental rationale for this study.

* Corresponding author.

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E-mail addresses: bergerrony@gmail.com (R. Berger), alaina.brenick@uconn.edu (A. Brenick), samantha.lawarence@uconn.edu (S.E. Lawrence), Lila.coco@mail.tau.ac.il (L. Coco), aburaiya@gmail.com (H. Abu-Raiya).

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2. Prejudice reduction and positive intergroup attitude promotion interventions

Recent reviews and meta-analyses of prejudice reduction and positive intergroup attitude promotion interventions for children, ranging from early childhood to adolescence, suggest that direct contact and social-cognitive skills training are the most effective among all types of interventions (Aboud et al., 2012; Aboud & Levy, 2000; Beelmann & Heinemann, 2014; Lemmer & Wagner, 2015). Contact-based interventions draw upon contact theory (Allport, 1954), which suggests that, under "optimal" conditions (i.e., equal status, common goals, intergroup cooperation, support of authorities), interpersonal contact will reduce prejudice between majority and minority groups. Researchers later added another condition for effective intergroup contact-friendships between members of different groups (Davies et al., 2011). A recent meta-analysis of over 500 studies revealed that, although these conditions may not be essential for prejudice reduction, when employed, they yield stronger effect sizes (Pettigrew & Tropp, 2006). Given the fact that our intervention was conducted in a context of a violent protracted conflict where intergroup attitudes are entrenched (Bar-Tal, 2013), we designed a contact experience that met the aforementioned optimal conditions.

Among the successful school-based strategies employed by proponents of the contact approach are: integrated schooling (Banks, 2009; Stephan & Stephan, 2001), integrated structured social activities (Berger, Benatov, Abu-Raiya, & Tadmor, 2016), unstructured social contact and friendships (Schachner, Brenick, Heizmann, Van de Vijver, & Noack, 2015), cooperative learning (Aronson & Patnoe, 1997), use of media (e.g., TV, books) depicting contact (Brenick et al., 2007; Cameron & Rutland, 2006), and bilingual education (Bekerman, 2005). Contact-based programs have been found to be effective in changing children's intergroup attitudes, not only in peaceful multicultural societies, but also in conflict zones around the world (see Berger, Benatoy, et al., 2016; Brenick et al., 2007; Lemmer & Wagner, 2015). The current intervention borrows elements from integrated schooling, cooperative learning, structured social activities, and bilingual education. Our intervention gives Palestinian- and Jewish-Israeli students an opportunity to interact during school time (e.g., integrated schooling), provides them with tasks that necessitate cooperation (e.g., cooperative learning, structured social activities), and utilizes both Arabic and Hebrew (e.g., bilingual education).

Additionally, the current contact intervention also drew from social identity development theory (Nesdale, 2007) which proposes that children's intergroup attitudes are significantly influenced by their identification with social groups, particularly as they are heightened during middle and late childhood (Rubin, Bukowski, & Parker, 2006). Therefore, our intervention followed the crossed identification strategy (i.e., when two opposing groups share membership in a third group, Gaertner & Dovidio, 2000), by acknowledging the differences between the Palestinian-Israeli and Jewish-Israeli students—marking group identities and delineations that are highly salient in their lives—while simultaneously establishing a common group identity by dividing them to mixed ethnic groups.

Through contact under optimal conditions, the goals of the mixed groups were shared and all participants had to work together to accomplish their goals. We expected the students to engage in respectful and cooperative interactions, build positive cross-ethnic peer relationships, and establish a mixed ethnic group with which they could identify.

In comparison, skills-oriented interventions are anchored in socialcognitive developmental theories which suggest that children's intergroup attitudes are influenced by their developing social-cognitive and social-emotional skills (Aboud, 2008; Bigler & Liben, 2007; Malti & Noam, 2016; Rutland & Killen, 2015). Over the course of childhood, youth develop a variety of social-cognitive and social-emotional skills central to the origin, maintenance, and/or reduction of prejudice. These Journal of Applied Developmental Psychology xxx (xxxx) xxx-xxx

skills include the ability to differentiate individuals within outgroups, and apply multiple classification (such as that required of crossed identification strategy), perspective taking, empathy, and compassion—particularly as they are extended to outgroup members (Aboud & Levy, 2000; Berger, Gelkopf, Heineberg, & Zimbardo, 2016; Bigler & Liben, 2007; Berger, Brenick, & Tarrasch, 2018; Malti & Noam, 2016). Though most previous skills-based interventions were conducted with children from peaceful multiracial and multicultural societies, several studies showed positive changes in children's intergroup attitudes in societies with ongoing violent ethnic conflict (Berger, Benatov, et al., 2016; Berger, Gelkopf, et al., 2016; Berger, et al., 2018; Slone, Tarrasch, & Hallis, 2000).

Skills training borrows from Piagetian cognitive development theory, its innate extension to social-emotional development (Malti & Noam, 2016), and their application to intergroup relations (Aboud & Levy, 2000; Bigler & Liben, 2007). It assumes that as children develop more sophisticated social-cognitive and social-emotional skills, their tendency to utilize stereotyping and prejudiced attitudes declines. This is particularly relevant to pre-adolescents who develop the ability to integrate multiple criteria for organizing social information and are becoming more sociocentric (Aboud & Levy, 2000). As children enter adolescence, identification with social groups becomes increasingly important (Nesdale, 2007) and their associated intergroup norms (Brenick & Romano, 2016) and attitudes solidify (see Raabe & Beelmann, 2011; Rutland & Killen, 2015), which can be particularly polarizing for youth growing up as a member of a group in conflict (Bar-Tal et al., 2017). Hence, training pre-adolescent children in socialcognitive skills might help prevent the crystallization of negative intergroup prejudice.

3. The current investigation

The current study contributes to the body of prejudice reduction interventions in three main ways. First, it provides a direct comparison of the relative impact of a direct contact intervention and a skills-based intervention on motivational, affective, and cognitive prejudice indicators. Second, it allows us to examine the longitudinal impact of these interventions in the context of a violent, protracted conflict where hatred and animosity permeates many aspects of daily life (Bar-Tal, 2013). These are key avenues of inquiry, as several researchers in the field have suggested that an "indirect approach" (i.e., avoidance of dealing directly with sensitive and volatile issues related to the conflict) might be a more effective strategy for prejudice reduction in an ongoing protracted ethnic conflict (Halperin, Russell, Trzesniewski, Gross, & Dweck, 2011; Rosen & Salomon, 2011). Finally, this is one of only a few studies conducted with children in an ongoing violent ethnic conflict (see Lemmer & Wagner, 2015).

In line with previous research (Beelmann & Heinemann, 2014; Lemmer & Wagner, 2015), we hypothesized that children in the intervention groups would show significant reductions in all prejudiced attitudes toward the outgroup and significant increases in positive intergroup attitudes in comparison to children in the control group. Additionally, because previous research has not yet compared between these two types of interventions directly, it was an open question as to whether the direct contact and skills training interventions would be differentially effective in changing the various intergroup indicators. Finally, based on previous research which has found that girls tend to exhibit less prejudice than boys (see Brenick & Killen, 2014; Brenick & Romano, 2016; Horn, 2007; Horn & Nucci, 2003), we hypothesized that girls would score lower overall on outcomes measuring prejudiced attitudes toward the outgroup and higher on those measuring positive intergroup attitudes, as compared to boys. It was an open question as to whether the treatments would be differentially effective based on gender.

4. Method

4.1. Setting

This study was conducted between September 2015 and December 2016 in Jaffa, the oldest part of the Tel Aviv-Yafo municipality. Approximately 20,000 Palestinian-Israelis and 35,000 Jewish-Israelis reside in this town, although the two populations remain largely segregated. The Palestinian-Israelis are the indigenous population of this area, whereas Jewish-Israelis have more recently migrated to the region. There are significant socio-economical differences between these two populations: the Jewish-Israeli population in the area is more economically affluent than the Palestinian-Israeli population. Palestinians-Israeli and Jewish-Israeli children attend separate public schools run by the Israeli Ministry of Education. In addition to their regular curricula, public schools in the Jewish sector teach in Hebrew and offer Jewish history, religion, and culture, whereas public schools in the Palestinian sector teach in Arabic and offer lessons in Arab history, religion, and culture. In recent years, tensions between the Palestinian-Israeli and Jewish-Israeli populations have risen due to the escalation of violence in the Palestinian-Israeli conflict (Shor, 2017). This is the backdrop upon which the department of education in the municipality invited the Arab-Jewish Community Center to develop a program that would diffuse tension, as well as create a cultural partnership between Palestinian-Israeli and Jewish-Israeli students in Jaffa.

The program was first presented to the education department of the municipality of Tel-Aviv-Jaffa whose ethical committee approved the study. They granted access to the schools, pending local approval. Three schools were chosen from the six Palestinian-Israeli elementary schools in Jaffa given they have similar socio-economic indices (i.e., the ministry of education's index comprised of parents' education, per capita income, school periphery, and country of origin).

4.2. Participants

Participants in this study were 148 Palestinian-Israeli 5th grade students from the three schools who were assigned, by classroom, to either the contact-based intervention (contact), skills-oriented training intervention (skills), or social studies control group (control). Three students were dropped from the study for failing to complete the questionnaires. There were 47 contact participants ($M_{age} = 10.55$ years; $SD_{age} = 0.26$; females = 45.65%), 50 in the skills group ($M_{age} = 10.55$ years; $SD_{age} = 0.27$; females = 53.06%), and 48 in the control group ($M_{age} = 10.60$ years; $SD_{age} = 0.27$; females = 47.92%). There were no significant differences observed at baseline between those who completed the study and those who dropped out.

4.3. Procedure for the implementation of the interventions

Following the approval of the principals, the research team explained the program's broader rationale to each of the eight homeroom teachers of the participating classes. Thereafter, the teachers received instructions specific to their group assignments. The teachers of the contact group were instructed to accompany the students during the Arab-Jewish Community Center's meetings and serve as observers, rather than play an active role in the facilitation of the groups. The teachers of the skills and the control groups were instructed to prepare the students for the interventions and remind them to practice the learned skills between sessions. All teachers were asked to present the program to the children's parents and enlist their support.

The facilitators of the two intervention groups were Palestinian-Israeli and Jewish-Israeli graduate students who were recruited based on their experience working with multicultural youth groups. Prior to the implementation of the interventions, the facilitators underwent a 6h training led by the first author in order to ensure adherence to the intervention.

4.4. The contact intervention

The contact intervention consisted of twelve bi-monthly meetings of ethnically mixed students. The aim of these meetings was to familiarize the students with one other, while highlighting both their similarities and differences (Dovidio, Gaertner, & Saguy, 2007). For the majority of the contact intervention, students were divided into three mixed ethnic groups of 15–18 students. In each 4-h session, the mixed groups engaged in warm-up exercises, experiential work related to the theme of the session, group discussions, and rotated between three 1-h artistic activities, including a music activity, movement activity, and social play activity. In between these activities, the students had a half-hour break where they played and had snacks.

To meet the optimal conditions originally suggested by Allport (1954), the following was done: first, the sessions were conducted with a similar number of Palestinian-Israeli and Jewish-Israeli students, both languages were used interchangeably, and Palestinian-Israeli and Jewish-Israeli facilitators were present in all activities (i.e., equal status); second, all activities were geared to achieve goals desirable to the students and required face-to-face interactions and cooperation (i.e., common goals and intergroup cooperation); third, the program was sponsored and supported by the municipality's education department, the school administration, and the parents (i.e., support of authorities), and; finally, the longer duration of the sessions provided time to develop greater intimacy (i.e., facilitated friendship building) and the encouragement of the facilitators and the homeroom teachers fostered continued contact between the students during and after the program (e.g., encouraging them to exchange phone numbers and email addresses).

4.5. The skills training intervention

The skills intervention consisted of twelve 45-min bi-monthly sessions that combined social-cognitive and social-emotional skills training (e.g., group classification development, perspective-taking, empathy) with developmentally-appropriate contemplative practices (i.e., compassion meditation). It borrowed practices from three sources: Enhancing Resiliency Among Students Experiencing Stress and Promoting Pro-Social Behavior, a social-emotional program (Berger, Gelkopf, et al., 2016); perspective-taking and empathy training (Doyle & Aboud, 1995; Frey, Nolen, Van Schoiack Edstrom, & Hirschstein, 2005); and the Call to Care, a mindfulness and compassion-cultivating program (Berger, et al., 2018).

Each session started with a psycho-educational presentation of the session's theme, followed by an explanation or demonstration of the skills to be practiced by the students. The bulk of the session was devoted to practicing the skills and discussing experiences that resulted from the practice. Students were encouraged to share with their parents the skills learned in these sessions and to practice them in between sessions. Following each session, the students' parents were informed of the materials learned in the session via the school's website or email and were encouraged to discuss and, if possible, to practice the skills with their children.

4.6. The social studies control group

The social studies control group consisted of twelve 45-min bimonthly sessions. The intervention was derived from the Key to the Heart social studies curriculum of the Israeli Ministry of Education (Ministry of Education, 2013). Though teachers were qualified to deliver this program, we decided to utilize external facilitators in order to standardize administration across all of the interventions.

The Key to the Heart program's aims is: "to cultivate students' civic values, to nurture relationships between the citizen and the society, to construct a framework of rules and procedures for social-ethical learning and to encourage social and ethical discourse" (Ministry of

Education, 2013). It involved monthly thematic modules which were delivered by the facilitator during social studies classes. The modules included themes such as: sharing and participating, social and community involvement, fostering responsibility and accountability, contributing to the community, diversity, conflict resolution, promoting respect, accepting the "other," and facilitating a safe and secure school atmosphere. These topics were taught via lectures, stories, and experiential exercises. However, unlike the skills intervention which focused on practicing specific skills related to developing non-judgmental attitudes, cognitive and emotional empathy, and compassion for self and others, the control group fostered general civic values and prosocial behaviors.

4.7. Fidelity of the interventions

All groups were observed and rated by two trained research assistants to ensure that the interventions were applied as written in the protocols. Facilitators were aware of the fidelity assessments. Ratings were performed on a 6-point scale ranging from 0 (*not at all as stipulated in the protocol*) to 5 (*exactly as stipulated in the protocol*). The two research assistants rated the intervention on three domains: (1) facilitators covered the intended topics; (2) facilitators followed the practices or experiential activities; and (3) group members were active during the session.

Fidelity was found to be acceptable for all three groups with good to high interrater agreement. The average fidelity ratings were as follows: 1) contact group: M = 3.70, SD = 0.61, (Cohen's Kappa = 0.75, p < 0.005); 2) skills group: M = 4.60, SD = 0.46, (Cohen's Kappa = 0.87, p < 0.001); and 3) control group: M = 3.20, SD = 0.82, (Cohen's Kappa = 0.65, p < 0.01). The ratings of fidelity did not differ significantly from one another (all p's > 0.17).

4.8. Measures and procedure for evaluating the interventions

Five outcome indicators were used to measure prejudiced attitudes: readiness for social contact, negative intergroup feelings, positive intergroup feelings, expectations about negative outgroup behavior, and outgroup stereotypes. Participants were assessed a week before the intervention began, immediately after it was completed, and at a 6month follow-up. The questionnaires were administered in a written format by two Arabic speaking university students who were trained to administer them and assist the students when needed. The administrators were blind to the group condition of the participants.

4.8.1. Readiness for social contact

Readiness for social contact was assessed by an instrument developed and implemented in previous studies (Bar-Tal & Labin, 2001; Berger, Abu-Raiya, & Gelkopf, 2015; Teichman, Bar-Tal, & Abdolrazeq, 2007). Participants were instructed to indicate their willingness to perform five activities (e.g, meet, play) with members of the ethnic outgroup on a 5-point scale ranging from "*not at all*" (0) to "*to a very large degree*" (4). Greater readiness to have social contact with members of the other ethnic group was indicated by higher scores on this scale. In the current study, Cronbach's α coefficients for this scale were 0.88, 0.91, and 0.93 for the pre-intervention, post-intervention, and followup surveys, respectively.

4.8.2. Positive and negative intergroup feelings

The degree to which students experienced different emotions (i.e., positive: secure, calm; negative: anxious, threatened) toward members of the Jewish-Israeli outgroup was assessed by the "Emotional Prejudice" scale developed by Teichman et al. (2007). Items were scored on 5-point scale ranging from "do not feel at all" (0) to "feel to a very large degree" (4). Scores of both the positive and negative emotions were averaged, so that higher scores on these scales indicated stronger emotions toward members of the other ethnic group. In this study,

Spearman-Brown coefficients for this scale were good to excellent (positive: $\rho = 0.86$, 0.92, & 0.92; negative: $\rho = 0.85$, 0.88, & 0.91 for the pre-intervention, post-intervention, and follow-up surveys, respectively).

4.8.3. Expectations about negative outgroup behaviors

Participants were asked to report their expectations about how likely the outgroup was to engage in 5 negative behaviors (e.g., hurt, steal). Ratings were made on a 5-point scale ranging from *"no chance at all"* (1), to *"high chance"* (5). In this study, Cronbach's α coefficients were good: 0.82, 0.85, and 0.86 at pre-intervention, post-intervention, and follow-up, respectively.

4.8.4. Outgroup stereotyping

Palestinian-Israelis' outgroup stereotypes were assessed by the Kaminsky and Bar-Tal's (1996) "Stereotyping" measure. Students were asked to rate Jewish-Israelis on 8 bipolar traits (e.g., good-bad, sociable-unsociable, smart-stupid) on a 5-point scale ranging, for example, from "*very smart*" (0) to "*very stupid*" (4) and from "*very beautiful*" (0) to "*very ugly*" (4). Higher scores indicated higher stereotyping. Cronbach's α coefficients for this scale were 0.82, 0.76, and 0.78 at pre-intervention, post-intervention, and follow-up, respectively.

5. Results

5.1. Plan for analyses

First, a preliminary 3 (treatment group: contact, skills, control) \times 2 (gender: male, female) multivariate ANOVA was conducted to determine if, at the pre-test, the treatment groups differed significantly from one another on any of the dependent variables: readiness for social contact, negative intergroup feelings, positive intergroup feelings, expectations about negative outgroup behaviors, and outgroup stereotypes. No significant differences between treatment groups were found for any of the dependent variables, indicating baseline equivalence across groups.

Next, the primary analyses for the study examined group level differences in the dependent variable mean scores across the three study time-points. Repeated measures ANOVAs were performed with time of assessment (3: pre-test, post-test, follow-up) as a within-subject factor, condition group (3: contact, skills, control) and gender (2: male, female) as between-subjects factors, and age as a covariate. Significant effects were followed-up by post-hoc univariate ANOVAs or pairwise comparisons. Bonferroni adjustments were used to account for multiple comparisons. Finally, in order to provide a metric for the difference between the groups, d_{Korr} indices of effect size (Klauer, 2001; Morris, 2008) were computed, comparing the differences across time points between the three condition groups, using pooled difference standard deviations.

Missing data were minimal, ranging from 3.77% to 7.68% by variable. Participants were omitted from the specific analyses for which their data were missing.

5.2. Main effects

For each of the outcome variables of interest, there was a significant main effect for gender; female participants were more accepting of/ positive about Jewish-Israeli outgroup members than were their male counterparts. When assessing the effectiveness of each condition group in promoting a readiness to engage in contact with the Jewish-Israeli outgroup, for instance, the analyses yielded a significant main effect for gender (*F*(1, 194) = 13.67, *p* < 0.001, $\eta_p^2 = 0.07$), which indicated that female participants (*M* = 1.73, *SE* = 0.10) were significantly more ready and willing for contact than were male participants (*M* = 1.29, *SE* = 0.10). Likewise, female participants (*M* = 1.07, *SE* = 0.10) held significantly less negative feelings toward the outgroup than did the

male participants (M = 1.41, SE = 0.10; F(1, 136) = 5.64, p < 0.05, $\eta_p^2 = 0.04$), and significantly higher (M = 1.53, SE = 0.12) positive intergroup feelings toward the outgroup than did male participants (M = 1.01, SE = 0.11; F(1, 194) = 12.46, p < 0.001, $\eta_p^2 = 0.06$).

In terms of Palestinian-Israeli participants' negative expectations of outgroup members' behavior, this gender trend continued. Female participants (M = 1.94, SE = 0.07) rated the Jewish-Israeli outgroup as engaging in significantly fewer negative intergroup behaviors (e.g., ignore you, insult you, or steal from you) than did male participants (M = 2.39, SE = 0.07; (F(1, 194) = 20.59, p < 0.001, $\eta_p^2 = 0.10$). Furthermore, in examining participants' stereotypes about the Jewish-Israeli outgroup, two main effects were found—gender (F(1, 136) = 19.47, p < 0.001, $\eta_p^2 = 0.13$) and group (F(2, 136) = 9.36, p < 0.001, $\eta_p^2 = 0.12$). However, these main effects were qualified by two interaction effects-time by group (F(2, 272) = 24.40, p < 0.001, $\eta_p^2 = 0.26$) and time by gender (F(2, 272) = 7.09, p < 0.01, $\eta_p^2 = 0.05$) interaction effects which will be discussed below.

5.3. Interaction effects

As hypothesized, each outcome variable yielded a significant time by group interaction effect, demonstrating that participants' scores on each outcome varied across time depending on the treatment group to which they were assigned. One outcome variable—outgroup stereotypes—also yielded a time by gender interaction effect.

Follow-up analyses for the time by group interaction for readiness to engage in contact with the Jewish-Israeli outgroup (F(4, 272) = 8.37, p < 0.001, $\eta_p^2 = 0.11$) revealed that participants in the skills group were significantly more ready for contact at the post-test than at the pre-test (F(2, 96) = 5.85, p < 0.01, $\eta p = 0.11$ see Table 1 for all *Ms*. & SDs). Their readiness for contact at the follow-up did not differ significantly from either pre-test or post-test levels. Comparatively, contact participants were significantly more ready for contact at the posttest than at either the pre-test or the follow-up (F(2, 90) = 6.79,p < 0.01, $\eta_p^2 = 0.13$), suggesting that they increased in readiness for contact over the course of the intervention, but did not maintain that increase at the follow-up. In contrast to participants in either treatment group, participants in the control group decreased in their readiness for outgroup contact across time; they were significantly more ready for contact at the follow-up than at the pre-test or the post-test (F(2,96) = 5.85, p < 0.01, $\eta_p^2 = 0.11$).

The time by group interaction for negative intergroup feelings (*F*(4, 272) = 14.91, *p* < 0.001, $\eta_p^2 = 0.18$) revealed that control participants in the skills (*F*(2, 96) = 12.83, *p* < 0.001, $\eta_p^2 = 0.21$) and contact (*F*(2, 90) = 14.59, *p* < 0.001, $\eta_p^2 = 0.25$) groups showed significant decreases in their negative intergroup feelings from the pre-test to the post-test—decreases that were maintained at the follow-up. Participants in the control gorup significantly increased in their negative feelings (e.g. anxiety and threat) about the Jewish-Israeli outgroup from the pre-test to the post-test and again to the follow-up assessment (*F*(2, 94) = 9.19, *p* < 0.001, $\eta_p^2 = 0.16$; see Table 1).

The time by group (F(4, 272) = 12.29, p = 0.001, $\eta_p^2 = 0.15$) interaction for expectations of negative outgroup behaviors demonstrated that participants in the treatment groups (skills: F(2, 96) = 13.23, p < 0.001, $\eta_p^2 = 0.22$; contact: F(2, 90) = 11.77, p < 0.001, $\eta_p^2 = 0.21$) rated the outgroup as engaging in significantly fewer negative behaviors at the post-test and at the follow-up than at the pretest. For both the skills and contact groups, post-test and follow-up ratings did not differ significantly from one another (see Table 1). Conversely, participants in the control group (F(2, 94) = 8.93, p < 0.001, $\eta_p^2 = 0.16$) rated the outgroup as engaging in significantly more negative behaviors at the follow-up than at either the pre-test or the post-test, although their pre-test and post-test ratings did not differ significantly.

Finally, analysis of participants' stereotypes about the Jewish-Israeli outgroup indicated that there were main effects for group and gender,

which were qualified by time by group (F(2, 272) = 24.40, p < 0.001, $\eta_p^2 = 0.26$) and time by gender (F(2, 272) = 7.09, p < 0.01, $\eta_p^2 = 0.05$) interactions. The time by group interaction demonstrated that participants in the skills (F(2, 96) = 38.91, p < 0.001, $\eta p2 = 0.45$) and contact (*F*(2, 90) = 43.16, p < 0.001, $\eta_p^2 = 0.49$) participants held significantly fewer negative outgroup stereotypes at the post-test and follow-up than at the pre-test indicating that both interventions effectively reduced negative outgroup stereotypes (see Table 1). In contract, participants in the control group (F(2, 94) = 5.49, p < 0.01, $\eta_p^2 = 0.11$) held significantly more negative outgroup stereotypes at the follow-up than at either the pre-test or the post-test. Further, the time by gender interaction revealed that female participants held significantly more negative outgroup stereotypes at the pretest (M = 2.53) than at either the post-test (M = 2.23; p < 0.001) or the follow-up (M = 2.32; p < 0.05). There was a slight but significant (p < 0.05) increase in outgroup stereotypes from the post-test to the follow-up. Likewise, male participants held significantly more negative outgroup stereotypes at the pre-test (M = 3.17) than at either the posttest (M = 2.57; p < 0.001) or the follow-up (M = 2.68; p < 0.001).

Klauer's (2001; Morris, 2008) d_{Korr} values were calculated to compare the treatment groups with the control group across time points. Results indicated moderate to large effect sizes for the treatment groups on each of the five outcome variables, with the exception of the readiness for contact and positive intergroup feelings scores for skills group members from pre-test to post-test. Effect sizes comparing the contact and skills intervention groups were small across all time points (see Table 1 for all d_{Korr} values). The results indicated that, for the most part, the treatment groups were more effective in reducing prejudice as compared to the control, but not much different from one another in their level of effectiveness.

6. Discussion

The current investigation utilized an experimental design to compare the efficacy and durability of two prejudice reduction programs: direct contact and social-cognitive/social-emotional skills training. The novel findings of the current study can be summarized as follows. First, compared to those taking part in the control group, Palestinian-Israeli children who engaged in either intervention group reduced their stereotypic views, negative feelings, and expectations about negative behaviors by Jewish-Israelis, and increased their readiness to have social contact with these outgroup members, as measured immediately after the completion of the programs. Only on measures of positive feelings about the outgroup did participants in the intervention groups differ. Whereas members of the contact group showed an increase in their positive feelings toward Jewish-Israelis immediately after the cessation of the program, those in the skills group exhibited no such effect. This result may be attributed to the fact that direct contact enabled the students to develop cross-group friendships, and hence, experience more positive feelings toward each other (Davies et al., 2011).

These findings suggest that both contact and skills interventions can be beneficial in reducing prejudiced attitudes of minority ingroup members toward majority outgroup members. While these results are consistent with other studies demonstrating the effectiveness of contact interventions in reducing prejudiced attitudes of ethnic minorities (Lemmer & Wagner, 2015; Tropp & Pettigrew, 2005), to the best of our knowledge, this is the first study to demonstrate that a skills-based intervention can have a similar comparative impact, both in the patterns of effects and the effect sizes.

Additionally, though both interventions were significantly and similarly effective in reducing prejudiced attitudes as observed immediately after the completion of the programs, the positive effects of the contact intervention diminished by the follow-up whereas those of the skills training were somewhat more robust and showed stability over time. Although the findings suggest that the effects of the skills training were more slightly more durable in some cases, this conclusion,

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d_{korr} post- to follow-up

 d_{kor} pre- to follow-up

 d_{korr} pre- to post-test

d_{korr} post- to follow-up

 d_{korr} pre- to follow-up

 d_{korr} pre- to post-test

 d_{korr} post- to follow-up

 d_{korr} pre- to follow-up

Post-test M(SD) Follow-up M(SD) d_{kor} pre- to post-test

Condition Pre-test M(SD)

group

Table 1

Participants' mean and standard deviation scores on dependent variables with effect size calculations.

				(compared to control)	(compared to control)	(compared to control)	(compared to skills)	(compared to skills)	(compared to skills)	(compared to contact)	(compared to contact)	(compared to contact)	
Participa Control Skills Contact	nts' readiness for social con 1.55 (1.02) ⁴ ^{a,a} 1.47 (1.06) ^a 1.33 (1.07) ^{4_{a,a}}	ntact 1.45 $(0.83)^{a_{a_{b_{a_{b_{a_{b_{a_{b_{a_{a_{a_{a_{a_{a_{a_{a_{a_{a_{a_{a_{a_$	$\begin{array}{c} 1.20 \; (0.75)^{\rm b} \\ 1.68 \; (0.78)^{\rm ab} \\ 1.50 \; (0.85)^{\rm a_{aa}} \end{array}$	- 0.34 0.48	- 0.70 0.59	- 0.26 0.08	-0.31 - 0.12	- 0.54 - - 0.04	0.36 - - 0.21	- 0.43 - 0.12 -	- 0.50 0.04 -	0.10 - 0.21 -	
Negative Control Skills Contact	intergroup feelings 1.11(0.97) ^{a, ab.s; ac.s.s} 1.52(1.14) ^a 1.52 (1.13) ^a	$\begin{array}{c} 1.39(0.89)^{\mathrm{b},\ bc_{*}}\\ 1.14(0.85)^{\mathrm{b}_{**}}\\ 0.93\ (1.03)^{\mathrm{b}_{***}}\end{array}$	$1.50(0.89)^{c}$ $0.99(0.76)^{b_{abst}}$ $1.03 (1.05)^{b_{abst}}$	- - 0.67 - 0.87	- - 1.00 - 0.87	- - 0.30 - 0.01	0.62 - -0.18	0.76 - 0.04	- 0.33 - 0.27	0.83 0.18 -	0.83 - 0.04 -	-0.01 0.27 -	
Positive i Control Skills Contact	ntergroup feelings 1.35 $(1.17)^{a. ab_{a;} ac_{a+a}}$ 1.27 $(1.20)^{a}$ 1.14 $(1.11)^{a_{a+b}}$	$\begin{array}{c} 1.13(0.91)^{\mathrm{b},\ bc_{\mathrm{s},\mathrm{s}}}\\ 1.33\ (1.01)^{\mathrm{a}}\\ 1.61(1.15)^{\mathrm{b}}\end{array}$	$\begin{array}{c} 0.88(0.87)^{c} \\ 1.35 \ (0.97)^{a} \\ 1.35(1.01)^{a_{s}} \end{array}$	- 0.27 0.65	- 0.60 0.69	- 0.24 0.60	- 0.24 - 0.35	-0.46 - 0.11	0.32 - - 0.26	- 0.60 - 0.35 -	- 0.59 - 0.11	0.04 -0.26 -	
Expectati Control Skills Contact	ons of negative outgroup l 2.15(0.63) ^a ** 2.32(0.83) ^a 2.40(0.88) ^a	2.25(0.56) ^a ** 2.25(0.56) ^b ** 2.02(0.65) ^b **	$2.40(0.59)^{\rm b}$ 1.91 $(0.47)^{\rm b_{***}}$ 2.10 $(0.82)^{\rm b_{**}}$	- - 0.61 - 0.66	- -1.15 -0.75	- - 0.54 - 0.101	0.54 - - 0.09	0.89 - 0.13	- 0.54 - 0.29	0.52 0.09 -	0.72 - 0.13 -	- 0.09 0.29 -	
Outgrour Control Skills Contact	stereotypes 2.80(0.82) ^{a,} 2.77(0.86) ^a 3.02(0.88) ^a db _{****} ; ac _{****}	$\begin{array}{c} 2.84(0.71)^{a_{000}}\\ 2.16(0.48)^{b_{a_{000}}}\\ 2.18(0.56)^{b_{100}}\end{array}$	$2.99(0.65)^{b}$ $2.17(0.46)^{b_{***}}$ $2.34(0.66)^{c}$	- - 1.08 - 1.29	- -1.41 -1.25	- - 0.23 0.02	0.77 - - 0.26	0.94 - - 0.09	- 0.34 - 0.26	1.03 0.26 -	1.02 0.09 -	0.04 0.26 0.26	Ioum
<i>Note:</i> Klaun for the sar significant mean and	$ar's$ (2001) d_{korr} , (Morris, ne condition group with ly different from one an standard deviation at p	, 2008); Control = in a given outcom other, but both 1 ϵ ost-test (b); * = p	Social Studies Oi te variable) are no and 2 are significa 0 < 0.05, ** = p	nly Control Grou to statistically sig untly different fro < 0.01, *** = p	p; Skills = Skills nificantly differed om 3 at the 0.05 lo < 0.001.	Treatment Group nt from one anotl evel); ^{ab} * interpre	o; Contact = Coi her (e.g. Lookin; ted as: the mear	ntact Treatment g at the values 1 ⁱ and standard d	Group; Values w ^{a,} , 2 ^{a,} , 3 ^b , we ca: eviation at pre-te	ith the same lett n conclude that v st (a) differ signi	er superscript in alues 1 and 2 are ficantly at the 0.	a given row (i.e. e not statistically 05 level from the 05 level from the	al of Applied Davel

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must be considered with caution given that the follow-up period was relatively short and that the effect sizes of the skills training versus contact from post-test to follow-up were small to moderate.

Future research should explore these differences, however, for a number of reasons. First, the skills intervention was much shorter than the contact intervention, because contact takes longer to ensure adequate time to develop meaningful friendships (Davies et al., 2011). Thus, the cost in time and financial resources may be much greater for a contact-based than for a skills-based interventions. Second, the study was conducted during a prolonged period of renewed violence and conflict (i.e., what has been named "the third Palestinian intifada," Beaumont, 2015). In contexts of protracted conflict, contact is not always sustained when the intervention ends. Instead, children return to relatively segregated lives that are filled with messages from societal sources (e.g., peers, family, media, community leaders) of ingroup norms (e.g., Brenick & Romano, 2016) that become more proximal and thus more influential in determining their attitudes toward members of the outgroup. These sources may deliver different, and often contradictory, messages about those outgroup members that children were exposed to during the contact intervention. These messages, in turn, may reduce the positive effects of the contact intervention and, with time, might cause them to disappear completely.

Furthermore, though we believe that our contact intervention benefited from the fact that it was carried out in a central community center in Jaffa and encouraged parents of the students to participate, lasting intergroup change necessitates a more complex ecological perspective that further involves the family and community at large. Finally, future research should assess whether skills training that targets perspective-taking, empathy, and other social-cognitive and socialemotional skills, as opposed to contact interventions, works by increasing participants' sensitivity to the moral injustice of intergroup biases and social exclusion—a phenemena that is more prevalent at this developmental stage. This potential explanation is in line with the Social Reasoning Developmental Perspective (Rutland & Killen, 2015) which highlights the importance of both social-conventional and moral reasoning in the formation of intergroup attitudes regarding stereotypes, prejudice, and exclusion (e.g.,Brenick & Romano, 2016).

Finally, in accordance with previous studies (Brenick & Killen, 2014; Brenick & Romano, 2016; Horn, 2007; Horn & Nucci, 2003), girls exhibited less prejudicial attitudes toward outgroup members than boys at all time points. This suggests that girls may be more willing to interact with outgroup members and hold more positive feelings toward them. There were no significant differences in effectiveness of the intervention depending on gender.

6.1. Limitations of the study

This study's findings are promising, yet they should be considered in light of the following shortcomings. First, the current investigation used a relatively small, non-randomly chosen sample, and the experiment was conducted at a few schools in one city. Moreover, though originally we planned to report the results of this study on Jewish-Israeli students as well, we could not use their data for complex political reasons stemming from the school system and local politicians. Additionally, it is possible that the contact intervention could be more effective for youth not living amidst conflict. Thus, the findings may not be generalizable to other settings. Future research should replicate this study with larger, randomly selected samples in non-conflict areas. Second, to assess the intervention's outcomes, the study's findings were based on self-report data. Although the instruments used have good psychometric properties, self-report measures can be subject to bias. It is therefore necessary to supplement the self-administered questionnaires with behavioral observations, which may be more accurate and less susceptible to bias. Third, though the homeroom teachers did not deliver the intervention-rather they were passive observers-they were not blind to the intervention. Nonetheless, this potential bias was present in both intervention and control groups and, therefore, we do not think teachers' roles significantly influenced the results. Fourth, though we attempted to create equal status for both groups within the contact scenario, there was no assessment as to whether or not participants perceived their status to be equal. It could be that the inequality experienced by Palestinian-Israelis outside of the contact setting was brought with them into this setting. Though we cannot rule-out the fact that the minority status of the Palestinians students influenced the findings, it is unlikely given the fact that a meta-analysis found that the relationships between contact and prejudice tend to be weaker among members of minority status groups than among members of majority status groups (Tropp & Pettigrew, 2005). Finally, based on the study's findings, it cannot be determined whether the attitudinal changes manifested by participants led to changes in actual behavior. Future research should fill this gap.

6.2. Implications of the study

Globalization, demographic changes, and migration have diversified Western societies, challenging them to deal with potential consequences of this phenomenon, such as discrimination and social exclusion. In the context of this study, Palestinian-Israeli and Jewish-Israeli communities are sharply segregated as political conflict rages. The current study demonstrates that children from diverse ethnic backgrounds can acquire skills such as perspective taking, empathy, and compassion that enable them to develop more positive intergroup attitudes and relationships. Ultimately, the development of such skills may promote greater inclusivity and cooperation among members of diverse communities.

The study's findings lend support to the short-term effectiveness of both skills- and contact-based approaches to reducing prejudice among children. Practically, the findings suggest that, in case contact is infeasible or potentially exacerbating, skills-based interventions may be a preferred alternative (see Berger et al., 2018). Alternatively, we tentatively propose that contact between ingroup and outgroup children might produce more durable effects if it is implemented after children have received skills training, or potentially concurrently. Additional studies are needed to test these possibilities. Our findings also suggest that, whatever prejudice reduction program is chosen, it may be particularly effective to apply such a program with relatively young children (i.e., elementary-school students) as it may have a significant impact on the development of their intergroup attitudes (Beelmann & Heinemann, 2014; Paluck & Green, 2009; Raabe & Beelmann, 2011). Because children who live in a conflict zone usually have no contact with outgroup members, they may be exclusively exposed to stereotype-consistent information and their attitudes toward them may be crystalized (Bar-Tal & Teichman, 2005; Bigler & Liben, 2007).

In sum, the study's experimental longitudinal findings support the short-term efficacy of both direct skills and contact-based approaches to prejudice reduction in the context of the Middle East. Such a nuanced consideration of prejudice reduction interventions could be informative to researchers interested in the application and consequences of such interventions in other areas in the world, especially those that are characterized by ethnic tension and violent conflicts.

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