When "Enemies" Become Close: Relationship Formation Among Palestinians and Jewish Israelis at a Youth Camp

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Having close relationships with outgroup members is an especially powerful form of intergroup contact that can reduce prejudice. Rather than examine the consequences of forming close outgroup relationships, which has previously been studied as part of intergroup contact theory, we examine how outgroup relationships—relative to ingroup relationships—form in the first place. We collected 7 years of data from Jewish Israeli and Palestinian teenagers attending a 3-week summer camp at Seeds of Peace, one of the largest conflict transformation programs in the world. We tested how being assigned to share an activity group (e.g., bunk, table, dialogue group) influenced relationship formation among outgroup pairs (Jewish Israeli–Palestinian) compared with ingroup pairs (Israeli–Israeli, Palestinian–Palestinian). Existing research offers competing theories for whether propinquity is more impactful for the formation of ingroup or outgroup relationships; here, we found propinquity was significantly more impactful for outgroup relationships. Whereas 2 ingroup participants were 4.46 times more likely to become close if they were in the same versus different bunk, for example, 2 outgroup participants were 11.72 times more likely to become close. We propose that sharing an activity group is especially powerful for more dissimilar dyads because people are less likely to spontaneously engage with outgroup members in ways that promote relationships. Thus, structured, meaningful engagement can counteract homophily. Furthermore, in this setting, propinquity proved to be an even better predictor of outgroup (vs. ingroup) relationship formation than that pair's initial outgroup attitudes. We discuss theoretical and practical implications for intergroup processes and relationship formation.

Keywords: homophily, intergroup contact, intergroup relationships, propinquity, social networks

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"The tragedy in the Israeli–Palestinian conflict is that the people in it live so physically close to one another, yet are so separated. . . . Walls are built of concrete to separate us, leading to even higher walls of fear and ignorance."

—Aziz Abu Sarah (2013), author of *Strangers, Neighbors, Friends: Muslim-Christian-Jewish Reflections on Compassion and Peace*

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Having close outgroup relationships is an especially powerful form of intergroup contact that can reduce prejudice. Indeed, forming relationships with people from different social groups can improve intergroup attitudes and decrease anxiety and stress in intergroup contexts (for review, see Davies, Tropp, Aron, Pettigrew, & Wright, 2011). Before people can enjoy the consequences of having close outgroup relationships, however, they need to build them first. Thus, rather than examine the consequences of forming an outgroup relationship, which has previously been studied as part of intergroup contact theory, we instead examine the factors that facilitate outgroup relationships—relative to ingroup relationships—in the first place. More specifically, the current paper seeks to understand: How is the formation of outgroup relationships similar to or different from the formation of ingroup relationships?

We explore this question in the context of one of the largest conflict transformation programs of its kind: Seeds of Peace. This program addresses the seemingly intractable and deeply entrenched Israeli–Palestinian conflict by bringing Jewish Israeli and Palestinian teenagers from their respective countries to the United States for an annual 3-week summer camp designed to promote leadership and reduce intergroup conflict. The setting allows us to

examine the relationships that form when people who are raised as "enemies" are given the opportunity to interact with one another as well as with members of their ingroup. We explore which campers become close to which other campers, and what types of encounters facilitate close outgroup and ingroup relationships. In so doing, we extend scientific understanding of how two well-established social psychological processes, the tendency to associate with similar others and with those who are proximate, influence relationship formation in a modern, high-conflict intergroup context.

Forming Relationships: Similarity and Propinquity

Individuals tend to associate with those who share their own characteristics, such as race, religion, gender, and age—a tendency known as homophily (for review, see McPherson, Smith-Lovin, & Cook, 2001). Indeed, if you reflect on your relationships with friends, neighbors, or coworkers, you are likely to identify many similarities with them. Homophily arises both because similar individuals tend to join the same activities (Feld, 1982) and because similar individuals tend to associate with each other even within a given activity (McPherson et al., 2001). Thus, supporting the notion that "birds of a feather flock together," research suggests that one major determinant for whether people form relationships is the extent to which they are similar to one another.

Additionally, having physical or psychological proximity to others, a feature known as propinquity, tends to facilitate relationship formation (Davies et al., 2011; McFarland, Moody, Diehl, Smith, & Thomas, 2014; McPherson et al., 2001; Sykes, Larntz, & Fox, 1976). For example, naval recruits in adjacent bunks, people who live on nearby streets, and college students who live in the same dorm hall are all more likely to become friends (McPherson et al., 2001; Sykes et al., 1976). If propinquity is assigned—that is, not selected by participating individuals—and effectively random, then it provides an opportunity to identify the causal effect of propinquity on relationship formation.

Although social network research has repeatedly established evidence for similarity and propinquity as two central factors driving relationship formation, there has been surprisingly little work examining how these two factors interact. This article tests whether being assigned to share activities encourages relationships to a different extent for people who are more or less similar. To our knowledge, ours is the first study to examine whether there is an interaction between similarity and *assigned* propinquity when participants have no opportunity to change their assignment. Moreover, we are the first to study the interaction of similarity and propinquity in a high-conflict intergroup setting.

Theoretically, determining whether (and when) propinquity affects how people form relationships with those who are more or less similar to them provides insight into the psychological processes by which similarity and propinquity each facilitate relationship formation. Our approach also opens deeper questions about the aspects of propinquity that matter most for establishing relationships, and whether those aspects differ for ingroup and outgroup members. Because we explore this in the context of one of the largest conflict transformation programs of its kind, our question is not only theoretically important for these different literatures but practically relevant as well.

Intergroup Contact Theory, Intergroup Interactions, and Relationship Formation

The effect of propinquity among dissimilar others has primarily been studied by psychologists as part of intergroup contact theory. Originally formulated by Allport (1954), intergroup contact theory suggests that, under the right conditions, having contact with outgroup members leads people to reduce their prejudice toward the outgroup. Specifically, Allport suggested that contact would reduce prejudice when there is (a) equal status between groups, (b) common goals, (c) intergroup cooperation, and (d) support from authorities, law, or customs. Since then, research has repeatedly demonstrated an association between positive intergroup contact and reduced prejudice. A meta-analysis by Pettigrew and Tropp (2006) suggested that prejudice reduction is greater when Allport's optimal conditions are present, though the conditions are not essential for improving attitudes.

Although findings from the contact theory literature could lead one to believe that contact with outgroup members is generally quite positive, other findings from the intergroup *interaction* literature suggest the opposite. Indeed, in the short term, interacting with outgroup members has been shown to lead to intergroup bias, anxiety, and avoidance (MacInnis & Page-Gould, 2015; Stephan & Stephan, 1985; Trawalter, Richeson, & Shelton, 2009). In an attempt to reconcile these two literatures, MacInnis and Page-Gould (2015) suggest that it may be useful to consider a contact "threshold" where a person accumulates enough intergroup interaction experience so that the negative effects generally seen in the intergroup interaction literature transform into the positive effects generally seen in the intergroup contact literature. Framed differently, their model suggests that increasing the quantity and quality of intergroup engagement will increase the rate at which an individual responds to outgroup interactions like ingroup interactions.

Perhaps because intergroup contact appears to yield greater benefits when the depth of contact is greater, close outgroup relationships have been considered an especially powerful form of intergroup contact that can lead people to change their attitudes. Note that, to the extent that close relationships are examined in the intergroup contact literature, they are typically considered an independent variable rather than a dependent variable. Indeed, the potential for forming close relationships has been offered as a fifth optimal condition for contact to reduce prejudice (Davies et al., 2011; Pettigrew, 1998). In the Seeds of Peace context, participants who formed a close outgroup relationship during camp developed more positive feelings toward outgroup campers and more positive feelings toward the outgroup as a whole (Schroeder & Risen, 2016).

Beyond testing the association between close outgroup relationships and intergroup attitudes, prior research has also shown that forming relationships with people from different social groups can have other benefits for individuals, such as decreasing anxiety and stress in intergroup contexts and encouraging openness to future intergroup interactions (Davies et al., 2011; Emerson, Kimbro, & Yancey, 2002; Page-Gould, Mendoza-Denton, & Tropp, 2008; Pettigrew, 1998; Tropp & Pettigrew, 2005; Wright, Aron, & Tropp, 2002; Wright & Tropp, 2005). Moreover, outgroup relationships may also have societal benefits, such as making it easier to tackle social issues such as promoting peace or compromise between groups in conflict or creating inclusive climates at work

and school, as has been found with intergroup contact broadly (Al Ramiah & Hewstone, 2013; Paolini et al., 2014; Schulz & Taylor, 2018; Stevens, Plaut, & Sanchez-Burks, 2008).

Of course, individuals and society cannot benefit from outgroup relationships until they are formed. Thus, we examine the relationships that form in an intergroup setting as our dependent variable of interest. We explore how individual and contextual factors interact to predict which participants will become close during their camp experience. We examine whether and how two of the most reliable predictors of relationship formation—similarity and propinquity –*interact* in an intergroup setting. Specifically, we test whether propinquity will be especially powerful for increasing relationships among ingroup members, as some theories suggest, whether it will be especially powerful for increasing relationships among outgroup members, as other theories suggest, or whether it will operate similarly for both ingroup and outgroup members.

Similarity, Propinquity, and Their Interaction

How might similarity and propinquity interact to influence relationship formation? We consider three competing hypotheses. Evidence that supports or rejects each one has theoretical value because it can shed light on how similarity and propinquity each influence relationship formation.

One possibility is that propinquity *amplifies* homophily, facilitating relationships more among similar than dissimilar individuals (Reagans, 2011), which we will call the *amplification hypothesis*. As described above, initial encounters with outgroup members are often negative in valence, "producing heightened stress, intergroup anxiety, or outgroup avoidance" (MacInnis & Page-Gould, 2015, p. 313). If the contact experience with similar others is positive while the contact experience with dissimilar others is less positive—or even negative—then more contact could very well amplify homophily. Indeed, contact with dissimilar individuals does not always reduce prejudice. Research on desegregation, for example, demonstrates that even when groups can mix, they often try to avoid interacting with each other (Dixon & Reicher, 1997; Hodson, 2011; Saguy, 2018; Schofield & Eurich-Fulcer, 2004). Moreover, when outgroup members actually interact, it can lead to increased disliking, prejudice, or ingroup favoritism (Bail et al., 2018; Barlow et al., 2012; Ebbesen, Kjos, & Konečni, 1976; Enos, 2014; Graf, Paolini, & Rubin, 2014; Hodson, 2011). For example, when Republican and Democrat Twitter users were assigned to follow a bot that exposed them to messages from people of their opposing political ideology, participants reported stronger identification with their own party's views (Bail et al., 2018). In addition, negative contact experiences are more strongly associated with corresponding negative attitudes toward the outgroup, as compared with the strength of association between positive contact experiences and positive attitudes (Barlow et al., 2012; Graf et al., 2014). Thus, frequent interactions may facilitate relationships generally, but less so for outgroup members if interactions with outgroup members are more likely to be negative in valence.

Note that the amplification hypothesis helps test how and why similarity facilitates relationships. If individuals tend to form relationships with similar others because ingroup interactions are consistently more positive and meaningful than outgroup interactions, then more frequent interactions should amplify the effect of similarity. But, if similar individuals tend to form relationships

with each other for another reason—for example, because they *anticipate* positive ingroup interactions and proactively start those more—then assigning propinquity may not amplify the effect of similarity.

A second possibility is that propinquity facilitates ingroup and outgroup relationships roughly equally, which we will call the *null hypothesis* because it would be supported by a nonsignificant interaction term between propinquity and similarity. That is, propinquity may help to build relationships with dissimilar others, as has been demonstrated numerous times in the intergroup processes literature, because it helps to build relationships in general. For example, in one study, being college roommates with an ingroup member compared to an outgroup member did not show a statistically significant difference in time spent with the roommate or attitudes toward the roommate, even though having an outgroup roommate affected the percentage of *other* outgroup friendships formed (Gaither & Sommers, 2013). Other studies have found that propinquity can increase the likelihood of outgroup relationships forming (e.g., Stearns, Buchmann, & Bonneau, 2009), but what remains unclear in these studies is how much propinquity matters for forming outgroup relationships *relative* to ingroup relationships, that is, how propinquity and similarity interact. Although studying the factors that influence outgroup relationship formation makes sense, practically speaking, for the purpose of promoting positive intergroup relations, comparing the effect of outgroups with ingroups is critical for developing a full theoretical picture of how and why propinquity causes relationships to form. If propinquity leads to relationships simply because it gives people more opportunities to interact, then we might expect it to have the same effect for ingroup and outgroup members. If propinquity has its effect by changing the nature of people's interactions, however, then we might expect differences.

A third possibility is that propinquity *mitigates* homophily, facilitating outgroup relationships that wouldn't otherwise form, which we will call the *mitigation hypothesis*. Supporting this possibility, a 1975 study of a housing project in New York City found that residents formed friendships with those who lived closer to them, but the effect of living closer was especially pronounced for individuals of a different race or age (Nahemow & Lawton, 1975). However, some questions remain about the direction of causality. Residents were allowed to (and, in fact, sometimes did) move away; dissimilar residents could have been more likely to be friends when living close to each other because less friendly, dissimilar individuals moved out.[1] In addition, previous research has found less homophily in smaller groups; for example, homophily is less pronounced among children in smaller schools or classrooms (where there are fewer associations from which to choose; McFarland et al., 2014). Thus, to the extent that assigned propinquity reduces electivity in associations, it may also reduce homophily.

We propose a nuanced version of the mitigation hypothesis: propinquity will have stronger effects for dissimilar individuals' relationship formation than for similar individuals' specifically

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[1] The researchers even noted that turnover had been relatively high in the year before the study, with several "older white" residents using "racial overtones" to complain about the state of the housing development (p. 209).

when assigned propinquity encourages meaningful engagement that dissimilar individuals would not normally have with each other. As noted above, isolated interactions with dissimilar others tend to be stressful and discourage future interactions (MacInnis & Page-Gould, 2015; Stephan & Stephan, 1985; Trawalter et al., 2009). In contrast, interactions with similar others are often more intimate and involve self-disclosure (Stephan, Stephan, Wenzel, & Cornelius, 1991; Trail, Shelton, & West, 2009), which are aspects of interaction that tend to foster relationships (Hays, 1985; Reis & Patrick, 1996; Reis & Shaver, 1988). Because people spontaneously have interactions that are conducive to developing relationships with similar others more so than with dissimilar others, we contend that activities that facilitate repeated, meaningful engagement will disproportionately increase the likelihood of relationship formation among dissimilar individuals. In other words, whereas similar others may be prepared to develop relationships with one another without the assistance of repeated, structured engagement, dissimilar others may need that assistance. Propinquity that encourages meaningful interactions can help dissimilar others transition from potentially difficult initial encounters to more rewarding engagement that promotes relationships.

Overview of the Current Research

We test these three competing hypotheses with Jewish Israeli and Palestinian participants of the Seeds of Peace program. Seeds of Peace was founded almost three decades ago and is now one of the world's largest conflict transformation programs. Each year, teenagers from the Middle East travel to America to participate. Seeds of Peace staff and the country governments and school systems select participants to attend based on their leadership potential and English-speaking abilities (not their propensity to form outgroup relationships; see details on selection in the Method section below).

Unlike most previous studies, we test the roles of propinquity and similarity among individuals from groups engaged in one of the most profound conflicts in the world. Indeed, the Israeli–Palestinian conflict is considered one of the most difficult and protracted conflicts of the 20th century. Further distinguishing the setting, participants' initial attitudes toward the outgroup are often not informed by direct interpersonal experiences. In our data collected between 2011 and 2017 (inclusive), 56.3% of participants reported never having met someone from the opposing group before. To better understand the relative importance of propinquity for forming outgroup relationships, we also examine the importance of individual differences in initial attitudes toward the outgroup (at precamp) for forming outgroup relationships, providing a meaningful comparison point to think about how much relationship outcomes are explained by propinquity.

We define relationships at Seeds of Peace as those camp participants (i.e., "alters") that a given participant (i.e., "ego") lists as "close." Although imperfect, having participants generate a list of names via survey methodology is a common means of generating social network data (Burt, 1984; Marsden, 1987, 1990, 2011). We discuss the potential limitations of this kind of recall-based measure in the Discussion section. Rather than attempting to measure "friendships" among intergroup participants (which many prior studies have done; see Davies et al., 2011), we instead measure "close relationships" because we expected that some participants

would resist referring to outgroup relationships as "friendships" in this highly antagonistic conflict setting. Thus, we expected that asking participants to nominate those to whom they felt most close would result in more accurate measurement of both close ingroup and outgroup relationships than asking them to nominate "friends" (which could result in a preference for nominating ingroup members). To make sure that our measure truly captured the people to whom participants felt close at camp (rather than, for instance, the social desirability of saying that one is close to certain people), we first confirm that similarity and propinquity each separately predicts closeness, which we expect based on the social network literature.

The Seeds of Peace camp provides a unique opportunity to explore the impact of assigned propinquity on outgroup versus ingroup relationship formation. Campers are assigned into three types of activity groups: dialogue groups in which participants have 110-min daily discussion sessions about the conflict, bunks where participants sleep every night, and dining tables where participants consume their daily meals (see details for how assignment occurs in Assignment to Groups section below). We examine how being assigned to the same or different group affects relationship formation for similar pairs (e.g., those with the same nationality) and dissimilar pairs (e.g., those with different nationalities). Furthermore, because the program occurs every summer with a new set of Israeli and Palestinian teenagers, we can examine whether our model of relationship formation shows a consistent pattern year to year.

Specifically, we test for evidence of either the amplification hypothesis, the null hypothesis, or the mitigation hypothesis. If propinquity facilitates relationship formation more for similar than dissimilar pairs, the data support the amplification hypothesis; if propinquity facilitates relationship formation to a roughly equivalent extent among similar and dissimilar pairs, the data support the null hypothesis; and if propinquity instead enhances relationship formation among dissimilar more than similar pairs, the data support the mitigation hypothesis (our preferred hypothesis for the Seeds of Peace context).

To be thorough, when testing the propinquity-similarity interaction, we considered multiple dimensions of similarity. Our primary focus is nationality-similarity (Jewish Israeli or Palestinian) because it is the most important dimension of similarity in this context. However, given that organizational research shows that accounting for multiple dimensions of similarity can explain some dyadic or group outcomes better than individual dimensions of similarity (Lau & Murnighan, 2005), we additionally analyze gender-similarity, age-similarity, and the composite of all three types of similarity.

Likewise, when testing the propinquity-similarity interaction, we considered multiple types of propinquity via the three different activity groups at camp (dialogue groups, table groups, and bunks) and their composite (i.e., whether campers were in any of the three groups together or not). By examining the effect of each activity group separately, we provide an initial test of our assertion that the mitigation hypothesis holds especially for meaningful interactions. That is, if propinquity reduces homophily by allowing people to meaningfully engage with outgroup members in the way they usually do much more with ingroup members, then we should find a stronger negative interaction between similarity and propinquity

for activity groups that involve more intimate and meaningful exchange (e.g., for dialogue groups more so than for table groups).

Method

Participants

To ensure adequate statistical power, we intended to survey as many Palestinian and Jewish Israeli camp participants as possible across multiple years of camp, hoping to collect data from at least 500 campers. In total, we surveyed 515 Palestinian and Jewish Israeli participants who attended one of the annual Seeds of Peace camps from 2011 to 2017 (53% female, M_{age} = 15.18, SD_{age} = 0.77). Camps included participants from other nationalities—such as Egyptians and Jordanians—but we focus our analysis on Palestinians and Jewish Israelis only, since the ingroup-outgroup distinction between these groups and history of antagonism is less ambiguous than it is for other group combinations.

Selection of Participants

Seeds of Peace camp participants are selected based primarily on two criteria: (1) their leadership potential and (b) their ability to speak English. The Ministry of Education from the Israeli government selected the Israeli participants. Seeds of Peace staff selected the Palestinian participants based on the quality of their applications. The program fully covers Seeds of Peace participants' expenses for the trip to camp.

This selection procedure suggests that camp participants could differ from the populations they come from in meaningful ways. For example, relative to national samples, Seeds of Peace camp participants in 2012 were more optimistic about the possibility of lasting peace in the Middle East ever being achieved, although Palestinians also felt less safe (Schroeder & Risen, 2016).[2] These differences, as well as unobserved differences between camp participants and the general population, underscore that analyses in this article may not generalize to the types of individuals who would not participate in the Seeds of Peace camp. We can examine how heterogeneity among camp participants affects relationships but cannot comment on those who do not attend.

Even though camp participants may not be perfectly representative of the individuals in their respective countries, they are an important group to study. In a 20-year longitudinal study, 17.5% of Israeli and Palestinian alumni ultimately worked professionally for peace-building initiatives (Lazarus, 2011), and others held influential positions in government, media, academia, and business.

Participant Precamp Measures

Sample survey materials are available at the Open Science Foundation project page: https://osf.io/5z2cr/. On the first day of camp ("pre-camp"), all participants completed a survey that collected demographic information and a number of attitudinal measures on 7-point Likert scales with labeled endpoints and midpoints (see Methods S1 in the online supplemental materials for survey questions).

Demographic information allows us to ascertain campers' nationality, gender, and age and to test how similarity between campers on each of these attributes affects relationship formation.

We additionally asked Palestinian respondents to report their geographic region (e.g., West Bank, Gaza) and asked Israeli respondents to report their religion. We only included Jewish Israelis (73.2% of surveyed Israelis) in the analysis; we excluded Israelis who reported being Muslim or Arab (22.9%) or Druze (3.9%) because they did not belong to a clear ingroup or outgroup (e.g., some of them identified more with Palestinians than with Jewish Israelis).

After participants report their demographic information in the survey, they next report information about their precamp outgroup relationships. They answer, "How many [Jewish Israelis/ Palestinians] do you have personal, positive relationships with?" (Response options: "0," "1," or "More than 1: Please write the number here"). We use responses to this question to create a binary variable indicating whether or not a given participant had a personal, positive relationship with an outgroup member before camp.

Our attitudinal survey measure includes 20 items (α = .91): how positive, close, trusting, and similar did participants feel toward individuals from the other side of their conflict; a subset of four items from Haslam (2006) to identify to what extent participants (de)humanize the other side (e.g., "[Jewish Israelis/ Palestinians] are less than human"); a three-item empathy index adapted from Swart, Hewstone, Christ, and Voci (2011; e.g., "If I saw a [Jewish Israeli/ Palestinian] being treated unfairly, I think I would feel angry at the way they were being treated"); a five-item anxiety index (reverse-scored) also adapted from Swart et al. (2011; "Imagine that your class is taking a trip to another country in the Middle East where there will be mostly [Jewish Israeli/ Palestinians]. Imagine you will have to interact with lots of [Jewish Israelis/Palestinians]. How do you think you would feel in this situation?" Nervous, worried, scared, defensive, unconfident); one item gauging perceived support in forming outgroup relationships ("How supportive are your friends and family about you forming relationships with [Jewish Israelis/ Palestinians]?"); and three items gauging commitment to the peace process (e.g., "How committed are you to working towards a peace with justice between Israelis and Palestinians?").

Participant Postcamp Relationships

On the last day of camp ("post-camp"), participants completed a second survey in which they listed up to five (in 2011–2013) or up to 10 (in 2014–2017) other participants from camp to whom they felt the "most close." Specifically, they were asked to "Think of the [five/ten] people at camp to whom you feel most close.

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[2] Schroeder and Risen (2016) included two self-reported attitudinal questions from national surveys on the 2012 camp survey. One question was, "What would you say these days about your security and safety, and that of your family?" (Response options: *completely safe*, *safe*, *not safe*, *not safe at all*, *do not know*). Only 33.4% of Palestinian participants at Seeds of Peace (compared with 49.6% of the nationally representative sample) reported feeling safe or completely safe (Palestinian Center for Policy and Survey Research, 2012). The second question was, "Which of the following statements is closest to your view about the prospects of lasting peace between the Israelis and Palestinians?" (Response options: *will happen in the next 5 years*, *will certainly happen but will take more time*, *don't believe it will ever happen*). Only 2.4% of the Jewish Israeli and 25% of Palestinian camp participants (compared with 49% of Israelis and 53% of Palestinians in the nationally representative sample) reported believing that lasting peace would never occur (Telhami, 2011a, 2011b).

Please list their first names and the first letter of their last names below." This "name generator" method of identifying relationships is common in studies of social networks (Burt, 1984; Marsden, 1987), as is the limit of five to 10 alters to keep surveys manageable (Burt, 1984). Participants' lists of close others created our main dependent variable: whether a dyad constituted a relatively close relationship (1) or not (0).

Because 79.9% of participants listed the maximum number of possible connections that the survey allowed, every "close" relationship should be considered close *relative to* other relationships. To identify exactly to whom each camper was referring, research assistants read through the lists of close relationships and manually matched the listed names to an identification number associated with that camp participant. A separate set of research assistants "audited" the first team's identifications and noted discrepancies. Finally, the authors reviewed discrepancies and came to consensus for resolving ambiguous cases. As needed, the research team consulted Seeds of Peace staff for assistance, such as identifying campers who went by nicknames.

Across all years, Jewish Israelis and Palestinians listed a total of 3,515 close relationships (of 3,955 possibilities, given the five-person maximum in years 2011–2013 and the 10-person maximum in years 2014–2017). Of these close relationships, 91.3% were identified with a "high" degree of confidence whereby both sets of research assistants agreed that there was only one person at camp to whom the subject could have been referring. An additional 3.9% were matched with a high degree of confidence to more than one possible target; for example, if there was more than one Dana in a given camp year, then cases of "Dana" clearly being listed, but without the initial of the last name, could not be matched to a unique individual. An additional 2.0% of close relationships were identified with high confidence as camp counselors or camp support members. Of the remaining 2.8% relationships listed, approximately half (1.4% of all relationships) were matched to possible names with a low degree of confidence. These cases often involved difficult-to-read handwriting; for these cases, research assistants listed one or more participants to whom the subject might have been referring. The other half of cases (1.4% of all relationships) are excluded from analysis for being unidentifiable. These cases consisted of names which appeared to be jokes (e.g., celebrity names), unidentifiable nicknames (e.g., "Big Man"), or single-letter entries (instead of full names).

Whenever a close relationship was associated with more than one possible target (e.g., more than one "Dana"), we randomly assigned one of the possible alternatives. For example, if there were three participants named Dana in a given camp year, we placed equal weight on each of these participants and randomly selected one to serve as the intended target. The largest number of alternatives was six, and 94% of cases with more than one possible match had only two or three alternatives. When excluding camp counselors and unidentifiable listed close relationships, we can confidently and reliably identify 95.8% of close relationships with a single camper; for the other 4.2%, we randomly selected the match from a list of possible alternatives. Because of this small portion of matches that could not be associated with one unique target with high confidence, we provide robustness checks for our key analyses which indicate that, regardless of the match selected, our results hold (see Analyses to Test Robustness section below).

We excluded one participant who listed 49 others as close (not following instructions). Owing to missing values on the precamp survey, seven additional camp participants (1.56%) are excluded from all analyses, leaving 36,560 dyads. Additionally, because of missing values regarding attitudes, any analyses on attitudes exclude 22 camp participants (4.27%), leaving 34,430 dyads for analysis. Our primary data for analysis therefore consist of 36,560 directed (one-way) dyads, including every possible pair of participants twice, such that a given participant was either the "subject" (list*er* of the close relationship) or "target" (list*ee* of the close relationship). This allows us to analyze all relationships that either party felt was close. (Most relationships [67.4%] were not reciprocal. Importantly, this does not mean that most relationships were one-sided; camp participants could only list the closest five or 10 relationships, leaving the possibility that they felt close to some camp participants whom they could not list.)

Assignment to Groups

Before camp, the camp staff assigned participants to three activity groups which formed our primary measures of propinquity: dialogue groups, bunks, and dining table groups. To form the groups, staff used the following methodology. To begin, they sorted participants into dialogue groups with eight to nine Jewish Israelis and Palestinians total (15–16 participants across all nationalities), aiming to achieve balance across groups first by nationality and then by gender, geography, and religion (the latter two of which were not collected from all participants for analysis). Next, camp staff repeated the process for bunks with four to five Jewish Israelis and Palestinians total (seven to 10 participants across all nationalities, though all of the same gender), and then for dining tables, which were smaller groups of two to four Jewish Israelis and Palestinians total (five to eight participants across all nationalities), aiming to minimize the number of participants who shared more than one group. Importantly, the staff did not know the participants before they were sorted, so staff could not assign participants based on their interpersonal friendliness, their attitudes toward the outgroup, or any other aspects that could conceivably influence relationship formation. If anything, the sorting method was intended to ensure diversity among each group, rather than to ensure that the groups would have similarity and get along.

Results

Descriptive Statistics

When restricting the data set to Jewish Israelis and Palestinians, we find that participants listed an average of 2.78 other individuals as close, 1.62 of which were from their ingroup (*Median* = 1, *Min* = 0, *Max* = 7, *M* = 1.62, *SD* = 1.46), and 1.15 of which were from their outgroup (*Median* = 1, *Min* = 0, *Max* = 6, *M* = 1.15, *SD* = 1.18). Unsurprisingly, participants listed more ingroup participants as close than outgroup participants, paired *t*(514) = 5.29, *p* < .001. Participants were typically listed by no other participants as close (*Median* = 0, *Min* = 0, *Max* = 11, *M* = 1.32, *SD* = 2.03). Hence, popularity was concentrated, with all Jewish Israeli and Palestinian participants collectively listing only 40.9% of other Jewish Israeli and Palestinian participants as close.

Overall, 10.8% of all possible dyads shared a dialogue group, 5.6% shared the same bunk (or 11.3% of same-gender dyads), 3.4% shared the same dining table, 0.5% shared at least two groups, and only two participants in all seven years shared all three groups. Although we cannot rule out unobserved factors contributing to imbalances across assigned groups, we do not detect any systematic differences along observed measures (including attitudes and precamp relationships), suggesting effectively random assignment (see Table S1 in the online supplemental materials). Importantly, campers did not have an opportunity to select their groups. Thus, even though we cannot rule out the possibility that camp staff inadvertently assigned participants by a nonrandom process, we can rule out selection on the part of the participants.

Analysis Strategy for Testing the Effects of Similarity and Propinquity on Relationship Formation

To explore the effects of propinquity on similar and dissimilar individuals forming relationships, we first analyze composite measures of similarity and propinquity; then, we consider dimensions of similarity and propinquity separately. To capture how multiple types of demographic dissimilarity could impact relationships, we created a *composite-similarity* index comparable with that created by Nahemow and Lawton (1975). Specifically, we created a measure of relative age closeness by computing the difference between the maximum age distance among all observations and a given dyad's age distance, divided by the maximum age distance. We averaged this measure with the gender-similarity and nationality-similarity indicators such that the full index ranged from 0 (not similar on any demographic dimension) to 1 (similar on all demographic dimensions; $M = .58$, $SD = .26$). Therefore, the composite-similarity index accounted for similarity in age, gender, and nationality. To measure *composite-propinquity*, we created a dichotomous measure that took the value 1 if participants in a dyad shared any assigned groups (dialogue group, bunk, or table) and 0 if they shared no groups ($M = .19$, $SD = .39$).

For all analyses, we used logistic regression with two-way clustering on participant IDs as subjects and as targets, as described in Cameron, Gelbach, and Miller (2011). We controlled for demographic variables, assigned group, camp year, and the number of non-Palestinian/non-Jewish Israeli relationships that a given participant listed as close. Additional analyses are described in the Analyses to Test Robustness results section.[3]

Main Effects of Similarity and Propinquity

Given the vast literature demonstrating the effects of similarity and propinquity for promoting relationships, we start by examining each main effect in the Seeds of Peace context. As expected, participants were more likely to report a close relationship with another participant when they were more similar (on the composite-similarity index composed of participants' nationality, gender, and age similarity; Table 1, Model 1: $b = 2.14$, $SE = .17$, $p < .001$), and when they shared at least one assigned group (Table 1, Model 1: $b = 1.96$, $SE = .07$, $p < .001$). Moreover, when we isolated the different aspects of similarity and propinquity, we found evidence for all types of homophily (same nationality: $b = .60$, $SE = .09$, $p < .001$; same gender: $b = .92$, $SE = .07$, $p < .001$; age difference: $b = -.13$, $SE = .06$, $p < .05$) and for

propinquity promoting relationships within each activity group (dialogue group: $b = 1.88$, $SE = .08$, $p < .001$; bunk group: $b = 1.87$, $SE = .06$, $p < .001$; table group: $b = 1.13$, $SE = .14$, $p < .001$).

Establishing significant main effects for similarity and propinquity on relationship formation is important for several reasons. First, these results suggest that relationships form at Seeds of Peace camp through similar processes as those identified in other settings. It would be difficult to interpret an interaction (or lack thereof) between similarity and propinquity without knowing that similarity and propinquity separately influenced relationship formation as expected. Second, the fact that people were more likely to become close to those who share their nationality means that even though Seeds of Peace is a conflict transformation program, there was still a stronger tendency to become close to ingroup (vs. outgroup) members. Finally, these results help validate the "name generator" measure that we used, indicating that the measure does indeed capture relatively close connections formed among participants at camp. The effects of similarity and propinquity align with results in the social networking literature that use name generator measures (like ours) as well as other tools for measuring relationships (Nahemow & Lawton, 1975; Reagans, 2011; Schaefer, Light, Fabes, Hanish, & Martin, 2010; Sykes et al., 1976). We further examine the validity of our relationship measure when analyzing how precamp attitudes influence relationship formation (see Effects of Initial Outgroup Attitudes on Relationship Formation).

Interaction of Composite-Similarity and Composite-Propinquity on Relationship Formation

Having established each main effect, we next tested our primary research question: How do similarity and propinquity interact? We found a statistically significant negative interaction between the composite indices of similarity and propinquity (Table 1, Model 2: $b = -2.30$, $SE = .26$, $p < .001$), providing evidence against the null hypothesis and against the amplification hypothesis. Instead, consistent with the mitigation hypothesis, there was less homophily among dyads who shared at least one assigned group. In other words, propinquity mitigated homophily. Sharing an activity group increased the likelihood that a relationship formed in general, but *especially* for more dissimilar dyads.

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[3] When there are multiple possible levels of aggregation in a dataset, which exists in our data, the standard recommendation for regression analysis is to cluster standard errors at the highest level of aggregation (Cameron et al., 2011). For the current data, we would therefore cluster standard errors by camp year. However, when we perform wild cluster bootstrapping with clustering at the level of the year on basic analyses (i.e., the recommendation of Cameron et al., 2011), standard errors become *smaller* than the standard errors of ordinary least squares regressions. A more conservative method that performs well when compared to clustering methods is Fama-MacBeth 2-stage regression (Conley, Gonçalves, & Hansen, 2018; Fama & MacBeth, 1973). This method involves splitting a sample into reasonably independent subsamples, regressing dependent variables on predictors within these subsamples, and then performing a t test on the collection of coefficients that result to determine whether the average coefficient is significantly greater than zero. In the case of our data, the observations we collect in a given camp year are reasonably independent from observations we collect in other camp years. Hence, we repeat our key analyses using Fama-MacBeth 2-stage regressions. The key analyses replicate using this alternative method.

Table 1

The Impact of Similarity and Propinquity on Relationship Formation Among Jewish Israeli and Palestinian Teenagers Attending the Seeds of Peace Camp

Measure	DV = Subject lists target as close, Clusters = Two-way			
	(1)	(2)	(3)	(4)
Similarity index	2.137*** (0.166)	3.417*** (0.230)		
Ingroup (vs. Outgroup)			0.584*** (0.078)	1.694*** (0.150)
Shared at least one group	1.956*** (0.071)	3.578*** (0.209)	1.978*** (0.069)	3.126*** (0.149)
Similarity Index × Shared at Least One Group		−2.297*** (0.256)		
Ingroup × Shared at Least One Group				−1.796*** (0.154)
Constant	−6.471*** (1.285)	−7.109*** (1.291)	−5.028*** (1.240)	−5.818*** (1.259)
AIC	10413.34	10324.5	10651.15	10455.29
Controls				
Bunk, table, dialogue group, camp year	X	X	X	X
Subject and target gender, age, nationality	X	X	X	X
# Non-ingroup/outgroup relationships	X	X	X	X
# Dyads	36,560	36,560	36,560	36,560
# Campers	508	508	508	508

Note. Model 1 indicates that more similar individuals and individuals who shared at least one activity group were especially likely to report becoming close by the end of camp. Model 2 qualifies this effect: Sharing a group mattered more for dissimilar than for similar dyads. Replacing the similarity index with nationality-similarity only (i.e., ingroup vs. outgroup status) resulted in a similar pattern of effects (Models 3 and 4).
*** $p < .001$.

Interaction of Nationality-Similarity and Composite-Propinquity on Relationship Formation

Because nationality is the most important dimension of dissimilarity in this context, we next specifically tested how propinquity impacted the relationships that formed among same-nationality dyads (i.e., ingroup dyads; two Jewish Israelis or two Palestinians) versus different-nationality dyads (i.e., outgroup dyads; Jewish Israeli–Palestinian pairs). A visualization of the social networks at camp shows that Jewish Israelis and Palestinians appeared more likely to form relationships with each other when they shared at least one activity group (see Figure 1). Indeed, our regression model showed that sharing an activity group was associated with an increase in the likelihood of relationship formation (Table 1, Model 3: $b = 1.98$, $SE = .07$, $p < .001$), as was being the same nationality (Table 1, Model 3: $b = .58$, $SE = .08$, $p < .001$), and that, supporting our mitigation hypothesis, propinquity mitigated nationality-similarity (Table 1, Model 4: $b = -1.80$, $SE = .15$, $p < .001$). The interaction indicates that sharing at least one assigned group significantly reduced the tendency of participants to associate with ingroup members more than outgroup members. Stated differently, we found that propinquity had a bigger effect among outgroup dyads.

Interaction of Other Types of Similarity (Gender, Age) and Composite-Propinquity on Relationship Formation

We further considered the effect of being assigned to share any group (vs. not) for other demographic characteristics (i.e., gender, age). We find that sharing an activity group facilitated opposite-gender more than same-gender relationships (Table 2, top, Model 2: $b = -.40$, $SE = .13$, $p = .003$), as well as relationships with a larger (vs. smaller) age gap, though only marginally significantly (Table 2, bottom, Model 2: $b = .17$, $SE = .10$, $p = .068$). Hence, for each type of similarity, we observed evidence in support of the

mitigation hypothesis. Analyzing the impact of each activity group separately on relationship formation showed directionally similar, but weaker, results (see Tables S2 and S3 in the online supplemental materials).

Interaction of Composite-Similarity and Sharing Specific Activity Groups on Relationship Formation

Having examined the composite effect of propinquity (e.g., being assigned to share any group vs. no group) on relationship formation, we next decomposed propinquity to test whether there are differences in relationship formation based on which activity groups are shared. First, we considered the effect of each activity group on our overall index of similarity. We find a negative Assigned Activity × Similarity interaction effect for each type of activity (Table 3, Model 2: Similarity × Dialogue Group: $b = -2.26$, $SE = .28$, $p < .001$; Similarity × Bunk Group: $b = -2.08$, $SE = .39$, $p < .001$; Similarity × Table Group: $b = -1.19$, $SE = .59$, $p = .033$), suggesting that sharing any of these groups facilitates relationships among dissimilar individuals more than among similar individuals. Thus, for each activity, we found evidence for the mitigation hypothesis.

Yet we also found variance in the size of the interaction effects, suggesting that sharing certain activities may have been more effective at reducing homophily than sharing other activities. Although the interaction effect sizes in Table 3 (Model 2) are similar for dialogue group and bunk, Wald $\chi^2(1) = .09$, $p = .769$, the interaction effect for table is directionally smaller, Wald $\chi^2(1)s > 2.92$, $ps < .090$. Sharing a dialogue or bunk group, more intimate and likely meaningful activities (see the section entitled Characteristics of Each Activity Group for a discussion), seemed to more effectively mitigate homophily than sharing a table group, providing initial support for our assertion that certain types of interaction may be more effective in mitigating the effect of homophily.
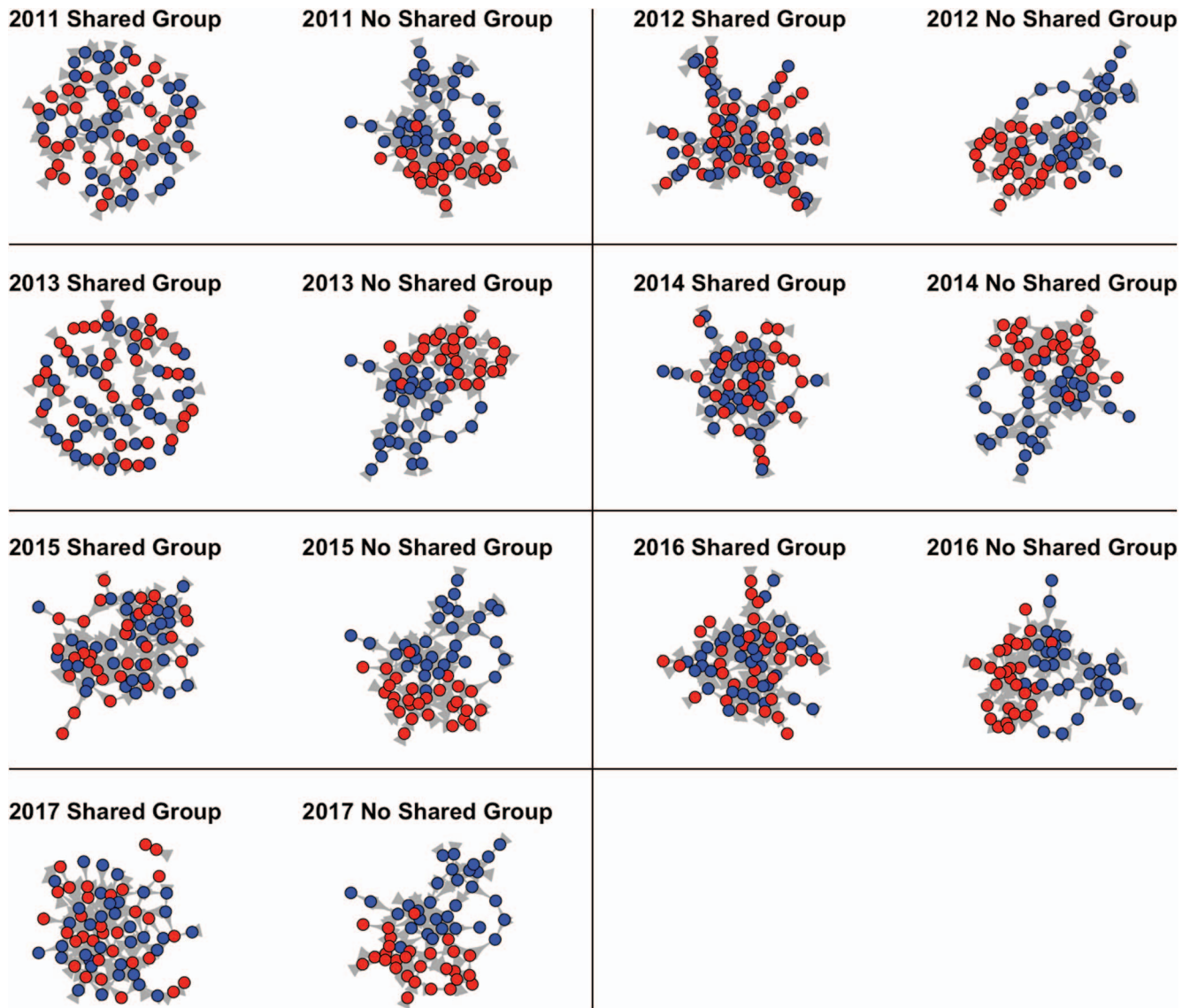
Figure 1. Visualization of the impact of sharing a group on relationship formation among Jewish Israeli and Palestinian teenagers attending the Seeds of Peace camp. For each year, on the left is shown the subnetworks of Jewish Israeli (labeled in blue) and Palestinian (labeled in red) camp participants who shared at least one assigned group—dialogue group, bunk, and/or table. On the right is shown the subnetworks of participants who did not share any of these groups. This visualization shows that homophily was mitigated among camp participants who shared at least one assigned group.

Interaction of Nationality-Similarity and Sharing Specific Activity Groups on Relationship Formation

When focusing on nationality—the most salient intergroup difference at camp—but separating the effect for different activity groups, we again observed differences in the extent to which being in each activity group reduced the effect of homophily on relationship formation. Figure 2 shows that the effect of nationality-similarity appears to be *reversed* by sharing dialogue groups, effectively eliminated by sharing bunk groups, but not significantly affected by sharing table groups.

Quantifying the size of each effect, our regression model shows that being assigned to the same dialogue group (Table 4, Model 2:

$b = -1.56$, $SE = .15$, $p < .001$) or bunk (Table 4, Model 2: $b = -.97$, $SE = .17$, $p < .001$) had a significantly greater impact on participants of different nationalities becoming close than on participants of the same nationality. The effect sizes are considerable: Two ingroup participants were 3.26 times more likely to become close if they were in the same versus different dialogue group, but two outgroup participants were 15.52 times more likely to become close if they were in the same versus different dialogue group. Similarly, two ingroup participants were 4.46 times more likely to become close if they were in the same versus different bunk, but two outgroup participants were 11.72 times more likely to become close if they were in the same versus different bunk. In

Table 2

The Effects of Composite-Propinquity and Gender-Similarity and Age-Similarity on Relationship Formation at Camp

	DV = Subject lists target as close, Clusters = Two-way	
Measure	(1)	(2)
Panel A		
Gender-similarity		
Same gender	1.218*** (0.071)	1.380*** (0.098)
Shared Either dialogue group or table	1.602*** (0.065)	1.874*** (0.112)
Same Gender × Shared Either Dialogue Group or Table		−0.400** (0.133)
Constant	−6.054*** (1.191)	−6.181*** (1.190)
AIC	11013.9	11006.44
Controls		
Bunk, table, dialogue group	X	X
Subject and target gender, age, nationality, year	X	X
# Non-ingroup/outgroup relationships	X	X
# Dyads	36560	36560
# Campers	508	508
Panel B		
Age-similarity		
Absolute differences in ages	−0.136* (0.062)	−0.229** (0.081)
Shared at least one assigned group	1.945*** (0.071)	1.826*** (0.093)
Absolute Differences in Ages × Shared at Least One Assigned Group		0.174† (0.095)
Constant	−6.202*** (1.298)	−6.059*** (1.302)
AIC	10523.95	10521.63
Controls		
Bunk, table, dialogue group	X	X
Subject and target gender, age, nationality, year	X	X
# Non-ingroup/outgroup relationships	X	X
# Dyads	36,560	36,560
# Campers	508	508

Note. Panel A of the table finds a statistically significant Propinquity × Same-Gender interaction effect; Panel B finds a marginally significant Propinquity × Age Distance interaction effect. For both interaction effects, the effect of propinquity on relationship formation is stronger for less similar (opposite-gender, larger age gap) dyads.
† $p < .1$.   * $p < .05$.   ** $p < .01$.   *** $p < .001$.

contrast, the interaction effect between ingroup status and table group was nonsignificant (Table 4, Model 2: $b = −.22$, $SE = .28$, $p = .435$), although it was in the same direction as the other effects. See Table S4 in the online supplemental materials for additional specifications.

This time, the interaction effect varied significantly by activity group, suggesting that the nature of the activity affected the extent to which propinquity mitigated homophily. The differential impact of sharing a dialogue group on outgroup (vs. ingroup) relationships was significantly greater than the differential impact of sharing a bunk (*Wald* $\chi^2(1) = 10.79$, $p = .001$), which in turn was significantly greater than the (nonsignificant) differential impact of sharing a table, Wald $\chi^2(1) = 5.28$, $p = .022$. Thus, the nature of the shared activity appears to have played an important role in how propinquity affected the extent to which participants associated with outgroup versus ingroup members, lending support to our specific proposal for the *mitigation* hypothesis.

Interaction of Similarity and Propinquity on Reciprocal Relationship Formation

Thus far, we have predicted relationships that either party felt was close. We also considered the smaller subset of reciprocal relationships. We defined a reciprocal relationship as one in which both members of the dyad listed each other as someone to whom they were close. We tested the regression models from Table 4, replacing our previous measure of close relationships (1 = either party listed the other as close, 0 = neither party listed the other as close) with a measure of reciprocal closeness (1 = both parties listed each other as close, 0 = both parties did not list each other as close). Similar effects of similarity and propinquity (and their negative interaction for dialogue and bunk groups) emerged for the formation of *reciprocal* relationships; if anything, the effects become directionally stronger (see Table S5 in the online supplemental materials). We also tested whether or not the target listing the subject as close moderates the homophily mitigation effect from Tables 1 and 4—it does not (see Table S6 in the online supplemental materials).

Characteristics of Each Activity Group (Staff Survey Data)

To better understand which characteristics of propinquity moderate the homophily mitigation effect, we asked a few experienced Seeds of Peace staff members, who were blind to our hypotheses and results, to answer questions about the different activity groups (see survey questions and data in Table S7 in the online supplemental materials). Their responses suggest that dialogue groups and bunks promote engagement that is more personally meaning-

Table 3

The Effects of Composite-Similarity and Being Together in Various Assigned Groups (Dialogue, Bunk, Table) on Relationship Formation at Camp

Measure	DV = Subject lists target as close, Clusters = Two-way	
	(1)	(2)
Similarity index	2.081*** (0.173)	3.147*** (0.208)
Same dialogue group	1.878*** (0.074)	3.370*** (0.199)
Same bunk (nested within same gender)	1.975*** (0.092)	3.511*** (0.302)
Same table	1.126*** (0.137)	1.910*** (0.376)
Similarity Index × Same Dialogue Group		−2.259*** (0.277)
Similarity Index × Same Bunk		−2.084*** (0.386)
Similarity Index × Same Table		−1.190* (0.558)
Constant	−7.116*** (1.300)	−7.656*** (1.290)
AIC	10546.04	10467.12
Controls		
Bunk, table, dialogue group	X	X
Subject and target gender, age, nationality, year	X	X
# Non-ingroup/outgroup relationships	X	X
# Dyads	36,560	36,560
# Campers	508	508

Note. We found a negative Assigned Activity × Similarity interaction effect for each type of activity, suggesting that sharing any of these groups facilitates relationships among dissimilar individuals more than among similar individuals. Note that whereas the interaction effect sizes in Model 2 are similar for dialogue group and bunk, the interaction effect for table is smaller.
* $p < .05$.   *** $p < .001$.

ful (e.g., more intimate, involving more self-disclosure and time) than do table groups. Specifically, they described the atmosphere of bunks and dialogue groups as involving more intimate conversations (i.e., more self-disclosure), more time, and more *negative* emotions (i.e., perhaps more challenging or difficult) than the atmosphere of table groups. In contrast, they reported that all three activities involved similarly high positive emotions. The staff also believed that participants' experiences in dialogue groups, which are led by professional facilitators, were not the type that most camp participants would spontaneously seek on their own, whereas participants would be more likely seek the types of experiences they had in bunks or at tables. Note that dialogue groups participated not only in 110-min dialogue sessions each day but additionally engaged in other group activities together (e.g., soccer, basketball, art, trust-building activities).

Given our results showing a pronounced impact of dialogue groups and bunks on outgroup relative to ingroup relationships (see Table 4) and on relationships for dissimilar relative to similar participants more broadly (see Table 3), this staff input suggests that participating in activities that facilitate more meaningful engagement—which these participants may not have had otherwise with dissimilar individuals—tends to counteract homophily more than activities with more superficial engagement.

Effects of Initial Outgroup Attitudes on Relationship Formation

Providing a comparison point for assessing the relative importance of the propinquity-similarity interaction for relationship formation, we additionally tested how individual differences in initial attitudes toward the outgroup (at precamp) affect outgroup (vs. ingroup) relationship formation. In Table 5, we present logistic

regressions, reverse-coding the ingroup-outgroup indicator for ease of interpretation (1 = *outgroup dyads*; 0 = *ingroup dyads*); in addition to our standard controls, we also controlled for precamp relationships (which may correlate with precamp attitudes) and the interaction of precamp relationships with outgroup status. A participant's outgroup attitude at precamp ($\alpha = .91$) predicted both listing outgroup members as close (Model 1: $b = .28$, $SE = .08$, $p = .001$) and being listed by outgroup members as close (Model 1: $b = .19$, $SE = .08$, $p = .016$).

The fact that outgroup attitudes predicted close relationships further bolsters the validity of our relationship measure. Although people with positive outgroup attitudes could list outgroup members as close because of social desirability or consistency concerns, social desirability and consistency cannot explain why people with positive outgroup attitudes were more likely to *be listed* as close by outgroup members. Instead, these results support the notion that participants were identifying people to whom they truly felt close, rather than merely succumbing to demand effects or attempting to report being close to outgroup members in order to maintain consistency with positive responses on attitudinal measures. See Figure 3 for a visualization of model predictions and Table S8 in the online supplemental materials for additional specifications.

Yet these data also suggest that numerous factors beyond participants' initial attitudes contribute to relationship development. On average, the top 10% of participants initially most positively inclined toward the outgroup listed about 4.48% of all outgroup participants as close and were listed by about 3.44% of outgroup participants as close; the bottom 10% (least positively inclined) listed about 1.34% of all possible outgroup participants as close and were listed by about 2.52% of outgroup participants as close. This difference is meaningful but also shows that even participants
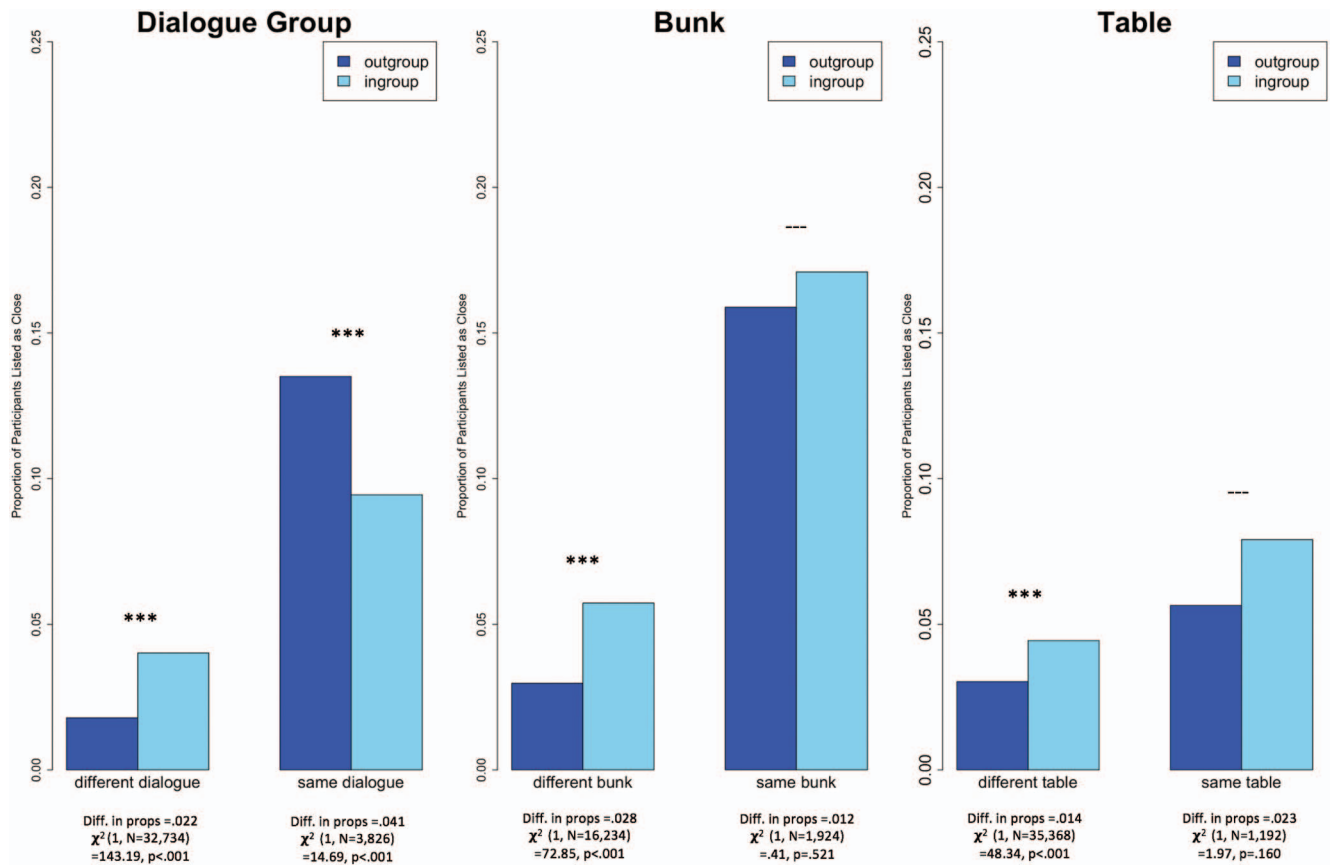
Figure 2. The proportion of ingroup versus outgroup dyads who became close by the end of camp, separated by assignment to the same or different dialogue group, bunk, and table. The middle panel (showing relationships by bunk assignment) includes same-gender dyads only, because bunks included only one gender. This figure is for illustrative purposes only; see the results of Table 4 for a more complete analysis including control variables. Asterisks indicate whether there is a statistically significant difference in the proportion of close others who were ingroup versus outgroup members among dyads who either did or did not share an assigned group. A simple test for a difference in proportions shows statistically significant homophily among dyads who did not share the same table group but nonsignificant homophily among dyads who did share the same table group. However, this appears to be attributable to the smaller sample size of the latter set of dyads. $^-$ $p > .10.$ *** $p < .001.$ See the online article for the color version of this figure.

starting with the most negative attitudes toward the outgroup formed close relationships with outgroup members.

Furthermore, models testing how propinquity affects relationship formation have more predictive power than models testing how initial attitudes affect relationship formation: when including the same controls (i.e., demographic variables, assigned group, camp year, the number of non-Palestinian/non-Jewish Israeli relationships, precamp relationships, interaction of precamp relationships with outgroup status), the information criteria of a model of subject and target attitudes (Table 5, Model 1) are substantially larger than the information criteria of a model of propinquity (Table 5, Model 2): $AIC_{Model\ 1} = 10,854$, $BIC_{Model\ 1} = 13,675$; $AIC_{Model\ 2} = 9,695$, $BIC_{Model\ 2} = 12,500$. Although it is possible that attitudinal measures not included in our analysis could improve the former model, our attitudinal index includes many psychological measures (e.g., positivity, empathy, humanization, anxiety, a willingness to commit to peace) that prior researchers have identified as playing a significant role in intergroup contact settings. Therefore, it is notable that the assigned activity

groups were more predictive of the relationships formed among outgroup members than were participants' own precamp attitudes toward the outgroup.

Analyses to Test Robustness

To test the robustness of our results, we used multiple methods. First, we additionally analyzed data using Fama-MacBeth two-stage regressions, which involves separating the full dataset into reasonably independent camp year subsamples. This method is efficient if the data is homoscedastic; otherwise, it is overly conservative (Conley, Gonçalves, & Hansen, 2018; Ibragimov & Müller, 2016). With this analysis, we found statistically similar results that lead to the same conclusions. For example, Table 6 reveals a significant Similarity × Propinquity interaction when we use sample splitting to conduct inference ($b_{average} = -2.26$, $t(6) = 5.97$, $p < .001$). Tables S9a and S9b in the online supplemental materials use sample splitting to test the effect of sharing specific

Table 4

The Effects of Nationality-Similarity, Gender-Similarity, and Age-Similarity and Being Together in Various Assigned Groups (Dialogue, Bunk, Table) on Relationship Formation at Camp

Measure	DV = Subject lists target as close Clusters = Two-way	
	(1)	(2)
Ingroup (vs. Outgroup)	0.596*** (0.087)	1.310*** (0.119)
Same gender	0.922*** (0.074)	0.883*** (0.075)
Absolute difference in ages	−0.130* (0.062)	−0.135* (0.062)
Same dialogue group	1.880*** (0.075)	2.742*** (0.119)
Same bunk (nested within same gender)	1.874*** (0.062)	2.462*** (0.062)
Same table	1.125*** (0.137)	1.303*** (0.212)
Ingroup × Same Dialogue		−1.561*** (0.146)
Ingroup × Same Bunk (nested within same gender)		−0.966*** (0.169)
Ingroup × Same Table		−0.219 (0.281)
Constant	−6.385*** (1.298)	−6.981*** (1.285)
AIC	10530.34	10397.8
Controls		
Bunk, table, dialogue group	X	X
Subject and target gender, age, and nationality	X	X
Camp year	X	X
# Non-Palestinian/Non-Jewish Israeli relationships	X	X
Observations		
# Dyads	36,560	36,560
# Campers	508	508

Note. The models show significant homophily for all measured dimensions of similarity and significant main effects of propinquity for all types of assigned groups (Model 1) as well as a significant interaction between being of the same nationality and being in the same dialogue group or bunk (Model 2).
* $p < .05$.   *** $p < .001$.

activity groups for ingroup versus outgroup members. Tables S10a and S10b in the online supplemental materials use sample splitting to test the effect of initial attitudes on relationship formation. Second, in addition to testing our hypotheses with logistic regressions, we also tested our hypotheses with linear probability and probit models. Again, the statistical outcomes remained almost entirely the same, except that the linear probability model produced several predicted probabilities below zero and hence is not optimal for drawing conclusions (see Tables S11 and S12 in the online supplemental materials).

Next, we completed a series of robustness analyses to address a potential source of error from our relationship matching process: 3.9% of the relationships in our sample were randomly selected from a short list of possible relationships. This occurred, for example, when participants listed a close relationship using only a first name and no last initial, and there were multiple camp participants with the same first name. To address the possibility of randomly selected relationships impacting our results, we conducted two robustness analyses. First, among the 3.9% of relationships that were ambiguous, we resampled relationships from all possible options, creating 1,000 sets of relationships, and ran the logistic regression from Table 4, Model 2, which looks at same nationality interaction effects with each assigned group separately. Average point estimates are statistically similar to the estimates presented in the main text (see Table S13 in the online supplemental materials). Second, we restricted the sample to dyads in which we were able to identify just one intended target of a close relationship (i.e., by removing all ambiguous relationships from the data set). The conclusions did

not change (see Table S14 in the online supplemental materials).

Finally, to address the possibility that camp participants who listed the maximum number of close others are different from campers who did not, we tested for observable differences between these two groups and found very few differences, none of which change our conclusions (see Tables S15a–15c in the online supplemental materials).

Discussion

Understanding how intergroup relationships develop is critical for overcoming conflict. The present study uses survey data from participants in one of the world's largest Middle East conflict transformation programs to study the relationships that form among Jewish Israeli and Palestinian teenagers at summer camp. This unique setting provides an opportunity to test how assignment to the same (vs. different) activity groups influences when people form relationships with individuals from their own nationality and from a different nationality. Across seven years of data, sharing activity groups disproportionately facilitated relationships among campers of different nationalities relative to the same nationalities, providing novel evidence that propinquity can counteract homophily. Providing insight into why this pattern of data emerged, the types of shared activities that most facilitated relationships among dissimilar individuals were those that encouraged personally meaningful interactions that outgroup individuals may not have voluntarily had with each other. Thus, our findings suggest that activities encouraging meaningful engagement can enhance the

Table 5

The Impact of Participants' Pre-Camp Outgroup Attitudes (Model 1) Versus Whether or Not They Shared at Least One Activity Group Together (Model 2) on Relationship Formation at Camp

Measure	DV = Subject lists target as close, Clusters = Two-way	
	(1)	(2)
Outgroup (vs. Ingroup)	-0.376^{**} (0.115)	-1.667^{***} (0.188)
Subject attitudes	-0.020 (0.055)	
Target attitudes	-0.019 (0.054)	
Shared at least one group		1.355^{***} (0.085)
Outgroup $\times$ Subject Attitudes	0.281^{***} (0.085)	
Outgroup $\times$ Target Attitudes	0.189^{*} (0.078)	
Outgroup $\times$ Shared at Least One Group		1.653^{***} (0.160)
Constant	-5.598^{***} (1.172)	-5.076^{***} (1.379)
AIC	10854.41	9695.32
Controls		
Bunk, table, dialogue group, camp year	X	X
Subject and target gender, age, nationality	X	X
Subject and target precamp relationships	X	X
Subject and Target Precamp Relationships $\times$ Outgroup	X	X
# Non-Palestinian/Non-Jewish Israeli relationships	X	X
# Dyads	34,430	34,430
# Campers	493	493

Note. Camp participants' attitudes were associated both with listing outgroup participants and with being listed by outgroup participants as close (Model 1), but assigned propinquity (Model 2) predicts relationship formation significantly better than does pre-camp attitudes (comparing Model 2 with Model 1). Only observations with non-missing values are included in this analysis.
$^{*} p < .05.$ $^{**} p < .01.$ $^{***} p < .001.$

development of relationships generally—but *especially* among outgroup members who may not otherwise pursue meaningful engagement among themselves.

Theoretical Contributions

The effect of propinquity among dissimilar others has been studied as part of intergroup contact theory. When outgroup relationships have been examined in the intergroup contact literature, however, it has been considered an independent variable rather than a dependent variable (Davies et al., 2011; Davies & Aron, 2016; Page-Gould et al., 2008; Pettigrew, 1998; Schroeder & Risen, 2016). Thus, whereas previous work has examined whether forming a relationship with an outgroup member can decrease prejudice toward the group as a whole, the current paper asks: How does the formation of outgroup relationships differ from the formation of ingroup relationships? In this way, our work extends beyond the findings in the intergroup contact literature.

In asking these questions, we build on and contribute to the literatures on relationship formation and intergroup processes as well. Although similarity and propinquity have been established as two of the most powerful predictors of relationship formation (McPherson et al., 2001), scholars have not rigorously tested whether being assigned to experience propinquity has stronger effects for people who are more or less similar (or whether the effects are the same). The intergroup interaction literature, which has repeatedly shown that interactions with outgroup members are often stressful and aversive (MacInnis & Page-Gould, 2015; Stephan & Stephan, 1985; Trawalter et al., 2009), suggests that

propinquity may amplify homophily. This is not the case in our data. Instead, our results support the notion that—even if intergroup interactions are initially aversive—with repeated experience (and support), they can promote close outgroup relationships to the point of significantly mitigating the effect of homophily.

Rejecting the amplification hypothesis in our context has implications for the intergroup processes literature as well as for our understanding of how similarity facilitates relationships. First, given that frequent interactions with an outgroup member were especially likely to lead to a close relationship with that outgroup member, our results are broadly consistent with the "contact threshold" hypothesis proposed by MacInnis and Page-Gould (2015). Note, however, that the "contact threshold" describes the accumulation of intergroup interactions with many people, whereas we focus on the effect of frequent contact with individual outgroup members. Although we assume that participants who attended Seeds of Peace accumulated enough intergroup experience to allow them to more successfully interact with new outgroup members in the future, our results can only show that repeated interaction with one outgroup member allows people to more successfully connect with him or her.

Second, the fact that people successfully engage with and become close to outgroup members about as much as (or even more than) ingroup members when given the opportunity to do so also sheds light on the process by which similarity causes relationships to form. If similarity increases relationship formation because interactions with similar others are consistently more positive and
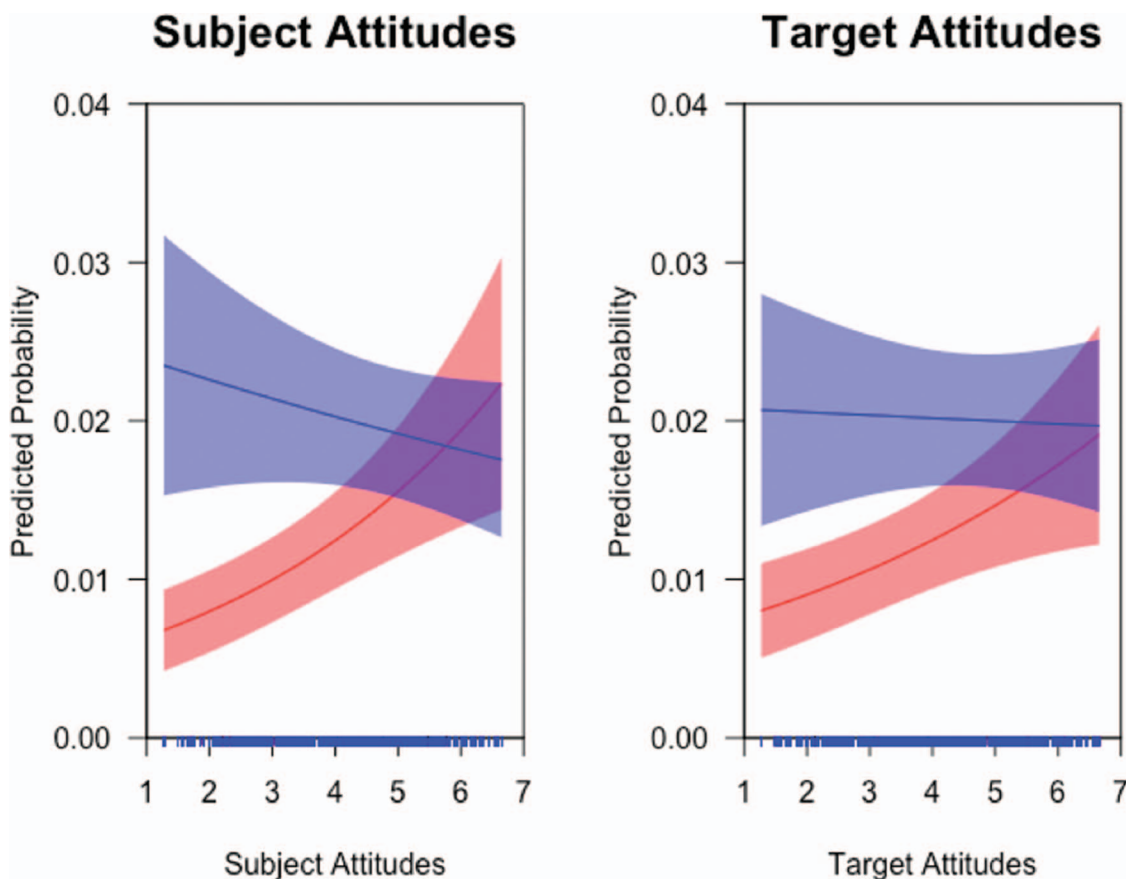
Figure 3. Visualization of how the subject's and target's outgroup attitudes influence relationship formation at camp. Red lines show how the predicted probability of listing a given outgroup camper as close changes as the subject's outgroup attitudes (left) or target's outgroup attitudes (right) vary. Purple lines show how the predicted probability of listing a given ingroup camper as close changes based on outgroup attitudes. Along the *x* axis, higher numbers reflect more positive outgroup attitudes. Predicted probabilities are based on Model 1 in Table 5. Confidence intervals are for illustrative purposes only and based on standard distributional assumptions; see Table 5 for inference.

meaningful, then more frequent interactions would amplify the effect of similarity. But the current study's results do not support this possibility. Instead, we find that similarity strongly predicts relationships when people do not share activities, but this effect is significantly reduced when they do. Because similarity has a stronger effect when people have less frequent interactions, it suggests that similarity may have its effect through people's *expectations* for their interactions rather than through interactions themselves. In other words, similarity may lead to relationships because people seek opportunities to connect with similar others, expecting them to be particularly positive and meaningful. When people are provided the opportunity to regularly and meaningfully interact with similar and dissimilar others, though, the interactions appear to support relationships with both.

Furthermore, if propinquity leads to new relationships simply by giving people more opportunities to interact (rather than by changing the nature of the interactions), then it should have a similar effect for ingroup and outgroup members. This is also not the case in our data. Instead, we find that assigned propinquity mitigated homophily, supporting what we called the "mitigation hypothesis."

This suggests that, through assigned activities, people may learn to engage with outgroup members in ways that are similar to how they spontaneously engage with ingroup members (i.e., without any assignment to activity). Thus, our results speak to the underlying processes by which propinquity and similarity can affect relationship formation.

Limitations

There are several limitations of the current study. First and foremost, all the participants chose to attend a program where they knew they would be interacting with outgroup members. It is not clear whether the results would hold for people who are not willing to attend a program like Seeds of Peace in the first place. Although selection into the program limits our ability to generalize to all people, heterogeneity within the program is still informative. Indeed, although participants who began camp with more positive attitudes toward the outgroup were more likely to ultimately form an outgroup relationship, even some of the participants who had the most negative initial outgroup attitudes were able to become

Table 6
Robustness Analysis of the Effects of Similarity and Propinquity on Relationship Formation at Camp Using Fama-MacBeth Sample Splitting

Measure	DV = Subject lists target as close, Clusters = Two-way						
	2011 (1)	2012 (2)	2013 (3)	2014 (4)	2015 (5)	2016 (6)	2017 (7)
Similarity index	3.747*** (0.719)	4.427*** (0.561)	3.645*** (0.690)	2.910*** (0.639)	2.380*** (0.576)	3.566*** (0.526)	3.922*** (0.477)
Shared at least one group	2.631*** (0.704)	4.887*** (0.449)	3.094*** (0.559)	3.176*** (0.528)	3.158*** (0.489)	3.398*** (0.541)	4.444*** (0.495)
Similarity Index × Shared At Least One Group	−0.976 (0.860)	−3.816*** (0.604)	−2.235** (0.714)	−2.167** (0.733)	−1.648** (0.611)	−1.637*** (0.598)	−3.343** (0.578)
Constant	−9.495*** (2.644)	−11.699*** (2.816)	−3.719 (3.602)	−9.807*** (2.805)	−5.215 (4.048)	−2.484 (4.382)	−7.505* (3.587)
AIC	1339.37	1347.76	1287.1	1409.23	1645.2	1526.98	1741.95
Controls							
Bunk, table, dialogue group	X	X	X	X	X	X	X
Subject & target gender, age, nationality	X	X	X	X	X	X	X
# Non-ingroup/outgroup relationships	X	X	X	X	X	X	X
# Dyads	5,700	6,162	6,320	4,160	4,556	4,692	4,970
# Campers	76	79	80	65	68	69	71

Note. We use Model 1 from Table 1 to explore how results change when we use sample splitting to conduct inference. The average of the interaction effects is $b_{average}$ = −2.26, $t(6)$ = 5.97, $p <$ .001.
* $p < .05$. ** $p < .01$. *** $p < .001$.

close to one or more outgroup members by the final day of camp. As a comparison point, whether or not an outgroup dyad shared an activity was more predictive of relationship formation than each dyad member's initial attitudes toward the outgroup.

These results provide a potential counterpoint for critics of conflict transformation and coexistence programs who express concern that such programs are only effective for people who already have positive attitudes toward outgroup members. Thus, although the results may be limited to those who are willing to interact with outgroup members, they do not require that people enter interactions with strongly positive attitudes toward the outgroup. If anything, given the current and historical intensity of the Middle East conflict, we suspect that our participants started with more negative attitudes toward the outgroup than in many other situations where people have the opportunity to form connections with either ingroup or outgroup members.

A second limitation is that recall-based network measures are subject to biases such as higher likelihood of recalling connections with frequent, intense, or recent interactions (Brewer, 2000; Hammer, 1985; Marsden, 1990), higher likelihood of recalling clusters of relationships than relationships with whom an individual shares fewer mutual associations (Brashears & Quintane, 2015), and lower likelihood of recalling connections for whom the participant has difficulty pronouncing or spelling their name. Despite its limitations, we believe that our recall-measure provides a meaningful assessment of camp participants' close relationships. After all, our measure reveals strong evidence of several forms of propinquity and homophily, which are both well-established in the literature. In addition, we find that having positive attitudes toward the outgroup predicts both the tendency to list outgroup members as close and the tendency to be listed by outgroup members as close, which further suggests that we are capturing the relationships that are developing at camp. Nevertheless, because of the limitations of recall-based measures, we recognize the importance of using other relationship measures in future research. For example, in smaller settings it would be useful to prompt every participant to evaluate their connection with every other ingroup and outgroup participant who shared and did not share an activity group.

Finally, the differences in outgroup relationship formation across activity groups make it clear that propinquity will not counteract homophily in all settings. Indeed, as noted earlier, research on desegregation highlights that even when groups can mix, they often avoid interactions with each other (Miller & Brewer, 1984; Schofield & Eurich-Fulcer, 2004). The context of the contact situation matters a great deal for the resulting positivity of the encounter (Christ et al., 2014). Furthermore, even when individuals report relationships or interactions with outgroup members, there is reason to believe that those may be exaggerated (Christ & Wagner, 2013). Thus, we are not claiming that propinquity will lead to more outgroup relationships in all contexts. Instead, we suggest that propinquity is particularly effective for facilitating close outgroup relationships when it provides the opportunity for *personally meaningful* encounters that are usually reserved for ingroup members. Although the responses from staff about differences between the activity groups are informative, the activities were not designed to differ only on the extent to which they provide personally meaningful encounters. Therefore, we are left speculating to some extent about why sharing a dialogue group

or bunk increases the likelihood of forming an outgroup relationship more so than does sharing a table group. Furthermore, because Seeds of Peace is designed to provide the exact conditions that Allport (1954) proposed as optimal for having intergroup contact improve attitudes, this setting may be especially conducive to counteracting homophily. In contexts that are less optimal, such as in the conflict region itself, proximity may not reduce homophily in the same way that it did at Seeds of Peace (e.g., Shwed, Kalish, & Shavit, 2018). For these reasons, one of the pressing questions for future research is not *can* propinquity mitigate homophily, but what is necessary for it to do so.

Future Directions

Staff members' descriptions of interactions within each activity group allow us to speculate about the necessary conditions for when propinquity mitigates homophily. Indeed, their descriptions are at once consistent with existing literature and suggestive of potential future directions for research. Table groups, which involved relatively less self-disclosure and time together, showed the least relationship formation overall and the most homophily. Thus, extending from prior research (Davies et al., 2011), our findings suggest that extended time and the opportunity for self-disclosure may elicit more meaningful engagement that is *especially* important for building relationships among people who do not normally share time or personal information. Additionally, staff members reported that whereas participants experience a mix of positive and negative emotions in dialogue groups and bunks, experiences at the table are primarily positive. Thus, although research suggests that negative or threatening encounters can backfire (Pettigrew, 1998), our work suggests that negative encounters need not backfire, perhaps as long as there is enough time and structure to help relationships recover. Future research could explore whether working through negativity or tough times can be part of what it means to engage meaningfully and actually help outgroup relationships form.

It may also be worth exploring whether ingroup and outgroup relationships form differently because people have different expectations for the two. One possibility is that *surprisingly* positive interactions can have a disproportionate impact on relationships, and people underestimate how positive interactions with outgroup members will be more than with ingroup members. For example, if participants have different expectations for outgroup and ingroup members for their dialogue group or bunk, but not for their table interactions, then this may help explain the differences we find across activities. Alternatively, even if expectations for all activities were similar, dialogue groups and bunks may provide more opportunities for *surprisingly* positive interactions, whereas table interactions are more typical. Participants may expect to always disagree with outgroup members and agree with ingroup members in a dialogue group (and end up pleasantly surprised occasionally in the former case and disappointed in the latter). In contrast, in a table group, participants may expect to talk about the food and the soccer game they just played and may not be as surprised by their interactions with anyone.

Future research would also benefit from examining the effect of propinquity on similar and dissimilar others over time. When Palestinians and Jewish Israelis form close relationships in their dialogue groups and bunks at camp, are they maintained after they

return home to the conflict region? To test whether propinquity continues to have a disproportionate role on outgroup relationships over time, we conducted follow-up surveys 9 to 12 months after camp participants returned home every year. Participants were instructed to think of the [five/ten] people from camp to whom they currently felt most close. Participants were presumably less concerned with providing "socially desirable" answers when completing follow-up surveys back at home than when completing surveys at camp. Thus, if the effects disappear when participants have distance from the Seeds of Peace program, it could call our measure of close relationships into question. If the effects remain, however, then it lends further support to the claim that we measured how close people really felt to one another. Response rates on the follow-up survey ranged from 41% in 2013 to 90% in 2017 (see Table S16 in the online supplemental materials), which limits the inferences we can draw from the data. Nevertheless, we find results consistent with those presented in the article. Namely, similarity predicted relationships nine months later, assigned propinquity predicted relationships nine months later, and propinquity continued to have a bigger effect for more dissimilar dyads. That is, sharing an activity group at camp had a bigger effect on outgroup relationships than it had on ingroup relationships 9 to 12 months after camp. This was true even controlling for relationships reported at the end of camp (see Table S17 in the online supplemental materials).

Finally, the Seeds of Peace program allows people to engage with outgroup members across various activities for three weeks. Campers can have difficult conversations in dialogue group that are balanced by celebrating wins on the soccer field, sharing personal stories before bed, and enjoying (or complaining) about food together. Thus, even though we find that participants are especially likely to form relationships with outgroup members from their dialogue group, because dialogue group is part of a larger experience it is unclear whether dialogue on its own would be a catalyst for outgroup relationships. Future research could consider the effect of being assigned to share one type of activity versus several types of activities on ingroup and outgroup relationship formation.

Conclusion

Forming relationships with outgroup members can have myriad individual benefits: helping individuals widen their social circles, feel less stress and anxiety in intergroup contexts, and reduce their prejudices (Davies et al., 2011; Emerson et al., 2002; Page-Gould et al., 2008; Pettigrew, 1998; Schroeder & Risen, 2016; Tropp & Pettigrew, 2005; Wright et al., 2002; Wright & Tropp, 2005). Outgroup relationships may also make it easier to tackle social issues such as promoting justice between groups in conflict or creating inclusive climates at work and school, as has been found in the intergroup contact literature (Al Ramiah & Hewstone, 2013; Paolini et al., 2014; Schulz & Taylor, 2018; Stevens et al., 2008). But to benefit from the consequences of outgroup relationships, individuals must first build them. This paper provides field evidence that assigned propinquity (especially when activities involve structured, intimate engagement) facilitates outgroup more than ingroup relationship formation. In a world rife with division, research must continue to explore how to structure environments so that people can meaningfully engage across lines of difference.

References

Abu Sarah, A. (2013, March). First person: How this Palestinian made friends with Israelis. *National Geographic*. Retrieved from https://blog.nationalgeographic.org/2013/03/19/first-person-how-this-palestinian-made-friends-with-israelis/

Allport, G. W. (1954). *The nature of prejudice*. Cambridge, MA: Addison Wesley.

Al Ramiah, A., & Hewstone, M. (2013). Intergroup contact as a tool for reducing, resolving, and preventing intergroup conflict: Evidence, limitations, and potential. *American Psychologist, 68,* 527–542. http://dx.doi.org/10.1037/a0032603

Bail, C. A., Argyle, L. P., Brown, T. W., Bumpus, J. P., Chen, H., Hunzaker, M. B. F., . . . Volfovsky, A. (2018). Exposure to opposing views on social media can increase political polarization. *Proceedings of the National Academy of Sciences of the United States of America, 115,* 9216–9221. http://dx.doi.org/10.1073/pnas.1804840115

Barlow, F. K., Paolini, S., Pedersen, A., Hornsey, M. J., Radke, H. R., Harwood, J., . . . Sibley, C. G. (2012). The contact caveat: Negative contact predicts increased prejudice more than positive contact predicts reduced prejudice. *Personality and Social Psychology Bulletin, 38,* 1629–1643. http://dx.doi.org/10.1177/0146167212457953

Brashears, M. E., & Quintane, E. (2015). The microstructures of network recall: How social networks are encoded and represented in human memory. *Social Networks, 41,* 113–126. http://dx.doi.org/10.1016/j.socnet.2014.11.003

Brewer, D. (2000). Forgetting in the recall-based elicitation of personal and social networks. *Social Networks, 22,* 29–43. http://dx.doi.org/10.1016/S0378-8733(99)00017-9

Burt, R. (1984). Network items and the General Social Survey. *Social Networks, 6,* 293–339. http://dx.doi.org/10.1016/0378-8733(84)90007-8

Cameron, A. C., Gelbach, J. B., & Miller, D. L. (2011). Robust inference with multiway clustering. *Journal of Business & Economic Statistics, 29,* 238–249. http://dx.doi.org/10.1198/jbes.2010.07136

Christ, O., Schmid, K., Lolliot, S., Swart, H., Stolle, D., Tausch, N., . . . Hewstone, M. (2014). Contextual effect of positive intergroup contact on outgroup prejudice. *Proceedings of the National Academy of Sciences of the United States of America, 111,* 3996–4000. http://dx.doi.org/10.1073/pnas.1320901111

Christ, O., & Wagner, U. (2013). Methodological issues in the study of intergroup contact: Towards a new wave of research. In G. Hodson & M. Hewstone (Eds.), *Advances in intergroup contact* (pp. 233–261). New York, NY: Psychology Press.

Conley, T., Gonçalves, S., & Hansen, C. (2018). Inference with dependent data in accounting and finance applications. *Journal of Accounting Research, 56,* 1139–1203. http://dx.doi.org/10.1111/1475-679X.12219

Davies, K., & Aron, A. (2016). Friendship development and intergroup attitudes: The role of interpersonal and intergroup friendship processes. *Journal of Social Issues, 72,* 489–510. http://dx.doi.org/10.1111/josi.12178

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. http://dx.doi.org/10.1177/1088868311411103

Dixon, J. A., & Reicher, S. (1997). Intergroup contact and desegregation in the new South Africa. *British Journal of Social Psychology, 36,* 361–381. http://dx.doi.org/10.1111/j.2044-8309.1997.tb01137.x

Ebbesen, E. B., Kjos, G. L., & Konečni, V. J. (1976). Spatial ecology: Its effects on the choice of friends and enemies. *Journal of Experimental Social Psychology, 12,* 505–518. http://dx.doi.org/10.1016/0022-1031(76)90030-5

Emerson, M. O., Kimbro, R. T., & Yancey, G. (2002). Contact theory extended: The effects of prior racial contact on current social ties. *Social Science Quarterly, 83,* 745–761. http://dx.doi.org/10.1111/1540-6237.00112

Enos, R. D. (2014). Causal effect of intergroup contact on exclusionary attitudes. *Proceedings of the National Academy of Sciences of the United States of America, 111,* 3699–3704. http://dx.doi.org/10.1073/pnas.1317670111

Fama, E. F., & MacBeth, J. D. (1973). Risk, return, and equilibrium: Empirical tests. *Journal of Political Economy, 81,* 607–636. http://dx.doi.org/10.1086/260061

Feld, S. L. (1982). Social structural determinants of similarity among associates. *American Sociological Review, 47,* 797–801. http://dx.doi.org/10.2307/2095216

Gaither, S. E., & Sommers, S. R. (2013). Living with an other-race roommate shapes Whites' behavior in subsequent diverse settings. *Journal of Experimental Social Psychology, 49,* 272–276. http://dx.doi.org/10.1016/j.jesp.2012.10.020

Graf, S., Paolini, S., & Rubin, M. (2014). Negative intergroup contact is more influential, but positive intergroup contact is more common: Assessing contact prominence and contact prevalence in five Central European countries. *European Journal of Social Psychology, 44,* 536–547. http://dx.doi.org/10.1002/ejsp.2052

Hammer, M. (1985). Implications of behavioral and cognitive reciprocity in social network data. *Social Networks, 7,* 189–201. http://dx.doi.org/10.1016/0378-8733(85)90005-X

Haslam, N. (2006). Dehumanization: An integrative review. *Personality and Social Psychology Review, 10,* 252–264. http://dx.doi.org/10.1207/s15327957pspr1003_4

Hays, R. B. (1985). A longitudinal study of friendship development. *Journal of Personality and Social Psychology, 48,* 909–924. http://dx.doi.org/10.1037/0022-3514.48.4.909

Hodson, G. (2011). Do ideologically intolerant people benefit from intergroup contact? *Current Directions in Psychological Science, 20,* 154–159. http://dx.doi.org/10.1177/0963721411409025

Ibragimov, R., & Müller, U. K. (2016). Inference with few heterogeneous clusters. *The Review of Economics and Statistics, 98,* 83–96. http://dx.doi.org/10.1162/REST_a_00545

Lau, D. C., & Murnighan, J. K. (2005). Interactions within groups and subgroups: The effects of demographic faultlines. *Academy of Management Journal, 48,* 645–659. http://dx.doi.org/10.5465/amj.2005.17843943

Lazarus, N. (2011). *Evaluating peace education in the Oslo-Intifada generation: A long-term impact study of Seeds of Peace 1993–2010* (Doctoral dissertation). Retrieved from http://www.dmeforpeace.org/sites/default/files/Ned%20Lazarus%20Dissertation.pdf

MacInnis, C. C., & Page-Gould, E. (2015). How can intergroup interaction be bad if intergroup contact is good? Exploring and reconciling an apparent paradox in the science of intergroup relations. *Perspectives on Psychological Science, 10,* 307–327. http://dx.doi.org/10.1177/1745691614568482

Marsden, P. V. (1987). Core discussion networks of Americans. *American Sociological Review, 52,* 122–131. http://dx.doi.org/10.2307/2095397

Marsden, P. V. (1990). Network data and measurement. *Annual Review of Sociology, 16,* 435–463. http://dx.doi.org/10.1146/annurev.so.16.080190.002251

Marsden, P. V. (2011). Survey methods for network data. In J. P. Scott & P. J. Carrington (Eds.), *The SAGE handbook of social network analysis* (pp. 370–388). Los Angeles, CA: Sage.

McFarland, D. A., Moody, J., Diehl, D., Smith, J. A., & Thomas, R. J. (2014). Network ecology and adolescent social structure. *American Sociological Review, 79,* 1088–1121. http://dx.doi.org/10.1177/0003122414554001

McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual Review of Sociology, 27,* 415–444. http://dx.doi.org/10.1146/annurev.soc.27.1.415

Miller, N., & Brewer, M. B. (Eds.). (1984). *Groups in contact: The psychology of desegregation*. New York, NY: Academic.

Nahemow, L., & Lawton, M. P. (1975). Similarity and propinquity in friendship formation. *Journal of Personality and Social Psychology, 32,* 205–213. http://dx.doi.org/10.1037/0022-3514.32.2.205

Page-Gould, E., Mendoza-Denton, R., & Tropp, L. R. (2008). With a little help from my cross-group friend: Reducing anxiety in intergroup contexts through cross-group friendship. *Journal of Personality and Social Psychology, 95,* 1080–1094. http://dx.doi.org/10.1037/0022-3514.95.5.1080

Palestinian Center for Policy and Survey Research. (2012). *Palestinian public opinion poll* (No. 43). Retrieved from http://www.pcpsr.org/sites/default/files/p43e.pdf

Paolini, S., Harwood, J., Rubin, M., Hunsu, S., Joyce, N., & Hewstone, M. (2014). Positive and extensive intergroup contact in the past buffers against the disproportionate impact of negative contact in the present. *European Journal of Social Psychology, 44,* 548–562. http://dx.doi.org/10.1002/ejsp.2029

Pettigrew, T. F. (1998). Intergroup contact theory. *Annual Review of Psychology, 49,* 65–85. http://dx.doi.org/10.1146/annurev.psych.49.1.65

Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology, 90,* 751–783. http://dx.doi.org/10.1037/0022-3514.90.5.751

Reagans, R. (2011). Close encounters: Analyzing how social similarity and propinquity contribute to strong network connections. *Organization Science, 22,* 835–849. http://dx.doi.org/10.1287/orsc.1100.0587

Reis, H. T., & Patrick, B. C. (1996). Attachment and intimacy: Component processes. In E. T. Higgins & A. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 367–389). Chichester, UK: Wiley.

Reis, H. T., & Shaver, P. (1988). Intimacy as an Interpersonal Process. In S. Duck (Ed.), *Handbook of Personal Relationships: Theory, Research, and Interventions* (pp. 367–389). New York, NY: Wiley.

Saguy, T. (2018). Downside of intergroup harmony? When reconciliation might backfire and what to do. *Policy Insights from the Behavioral and Brain Sciences, 5,* 75–81. http://dx.doi.org/10.1177/2372732217747085

Schaefer, D. R., Light, J. M., Fabes, R. A., Hanish, L. D., & Martin, C. L. (2010). Fundamental principles of network formation among preschool children. *Social Networks, 32,* 61–71. http://dx.doi.org/10.1016/j.socnet.2009.04.003

Schofield, J. W., & Eurich-Fulcer, R. (2004). When and how school desegregation improves intergroup relations. In M. B. Brewer & M. Hewstone (Eds.), *Perspectives on social psychology: Applied social psychology* (pp. 186–205). London, UK: Blackwell.

Schroeder, J., & Risen, J. L. (2016). Befriending the enemy: Outgroup friendship longitudinally predicts intergroup attitudes in a coexistence program for Israelis and Palestinians. *Group Processes & Intergroup Relations, 19,* 72–93. http://dx.doi.org/10.1177/1368430214542257

Schulz, M., & Taylor, L. K. (2018). The processes underlying the quality of contact with the primary out-group and in-group importance on support for the Syrian resettlement in a post-accord context. *Peace and Conflict, 24,* 306–314. http://dx.doi.org/10.1037/pac0000321

Shwed, U., Kalish, Y., & Shavit, Y. (2018). Multicultural or assimilationist education: Contact theory and social identity theory in Israeli Arab–Jewish integrated schools. *European Sociological Review, 34,* 645–658. http://dx.doi.org/10.1093/esr/jcy034

Stearns, E., Buchmann, C., & Bonneau, K. (2009). Interracial friendships in the transition to college: Do birds of a feather flock together once they leave the nest? *Sociology of Education, 82,* 173–195. http://dx.doi.org/10.1177/003804070908200204

Stephan, W. G., & Stephan, C. W. (1985). Intergroup anxiety. *Journal of Social Issues, 41,* 157–175. http://dx.doi.org/10.1111/j.1540-4560.1985.tb01134.x

Stephan, W. G., Stephan, C. W., Wenzel, B., & Cornelius, J. (1991). Intergroup interaction and self-disclosure. *Journal of Applied Social Psychology, 21,* 1370–1378. http://dx.doi.org/10.1111/j.1559-1816.1991.tb00476.x

Stevens, F. G., Plaut, V. C., & Sanchez-Burks, J. (2008). Unlocking the benefits of diversity: All-inclusive multiculturalism and positive organizational change. *Journal of Applied Behavioral Science, 44,* 116–133. http://dx.doi.org/10.1177/0021886308314460

Swart, H., Hewstone, M., Christ, O., & Voci, A. (2011). Affective mediators of intergroup contact: A three-wave longitudinal study in South Africa. *Journal of Personality and Social Psychology, 101,* 1221–1238. http://dx.doi.org/10.1037/a0024450

Sykes, R. E., Larntz, K., & Fox, J. C. (1976). Proximity and similarity effects on frequency of interaction in a class of naval recruits. *Sociometry, 39,* 263–269. http://dx.doi.org/10.2307/2786519

Telhami, S. (2011a). *Annual Arab public opinion survey*. Retrieved from https://www.brookings.edu/wp-content/uploads/2016/06/1121_arab_public_opinion.pdf

Telhami, S. (2011b). *Public opinion polls of Jewish and Arab citizens of Israel*. Retrieved from https://www.brookings.edu/wp-content/uploads/2016/06/1201_israel_poll_telhami_presentation.pdf

Trail, T. E., Shelton, J. N., & West, T. V. (2009). Interracial roommate relationships: Negotiating daily interactions. *Personality and Social Psychology Bulletin, 35,* 671–684. http://dx.doi.org/10.1177/0146167209332741

Trawalter, S., Richeson, J. A., & Shelton, J. N. (2009). Predicting behavior during interracial interactions: A stress and coping approach. *Personality and Social Psychology Review, 13,* 243–268. http://dx.doi.org/10.1177/1088868309345850

Tropp, L. R., & Pettigrew, T. F. (2005). Relationships between intergroup contact and prejudice among minority and majority status groups. *Psychological Science, 16,* 951–957. http://dx.doi.org/10.1111/j.1467-9280.2005.01643.x

Wright, S. C., Aron, A., & Tropp, L. R. (2002). Including others (and groups) in the self: Self-expansion and intergroup relations. In J. P. Forgas & K. D. Williams (Eds.), *The social self: Cognitive, interpersonal and intergroup perspectives* (pp. 343–363). New York, NY: Psychology Press.

Wright, S. C., & Tropp, L. R. (2005). Language and intergroup contact: Investigating the impact of bilingual instruction on children's intergroup attitudes. *Group Processes & Intergroup Relations, 8,* 309–328. http://dx.doi.org/10.1177/1368430205053945