# Intergroup Contact, Empathy Training, and Refugee-Native Integration in Lebanon

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March 25, 2025

**Abstract**

Can intergroup contact improve relations between refugees and host communities? If so, are there added returns to combining contact and empathy education? Does either approach unlock spillover effects among household members? To answer these questions, we conduct a field experiment that brings together Syrian refugees and Lebanese nationals in three localities in Lebanon, where refugees make up a quarter of the population. Working with a Lebanese NGO, we randomly assign Lebanese and Syrian youth participants to an ethnically heterogeneous or homogeneous classroom for a 12-week psycho-social support program. We further randomize whether participants received additional empathy education or a placebo curriculum focused on health and nutrition. We find that contact is more effective at teaching conflict resolution, but reduces the willingness to engage in further contact, as measured by attending an event celebrating the ougroup's culture. By contrast, empathy education decreases prejudice without negative effects on behavior. We do not find clear interaction effects of contact and empathy training, nor significant spillover effects among parents. The results point to the different trade-offs associated with both contact and empathy interventions in fragile settings.

# 1 Introduction

In May 2023, the Lebanese Armed Forces began summarily deporting thousands of Syrian refugees.[1] The deportations capitalized on a wave of anti-refugee rhetoric in Lebanon: in the preceding months, Lebanon's former President Michel Aoun stated that the presence of Syrian refugees represented a "conspiracy against Lebanon" by "European countries [that] want to integrate the Syrian refugees into the Lebanese society," former Foreign Minister Gebran Bassil claimed that Syrians were only in Lebanon thanks to a "web of money and benefits," and security forces had to shut down demonstrations outside the UNHCR's Beirut offices protesting the presence of Syrian refugees in Lebanon.[2] Xenophobic proclamations by elites largely succeeded in creating a "coercive environment" for Syrians according to rights groups.[3] A nationally-representative survey in 2013 found that 52% of Lebanese viewed Syrian refugees as a threat to national security, 82% believed that Syrians take jobs from Lebanese, and 35% reported that Syrians benefit from "unfair" economic assistance to a "great extent" (Christophersen et al. 2013). These beliefs reflect common misperceptions about Syrians, 90% of whom live in extreme poverty as of 2021.[4] Sharing a common language, culture, and (for the most part) religion, has done little to mitigate Lebanese prejudice against Syrians, which has been exacerbated by the collapse of the Lebanese economy in 2019.

How can we build social cohesion — patterns of everyday trust and tolerance (Gilligan, Pasquale and Samii 2014) — between refugees and host communities who live in close proximity? The causal evidence base points to two promising interventions: intergroup contact and empathy education. The 'contact hypothesis' stipulates that interpersonal contact across group lines, when that contact involves cooperating for a common goal, equal power

[1] https://www.amnesty.org/en/latest/news/2023/05/lebanon-halt-summary-deportations-of-syrian-refugees/

[2] https://www.arabnews.com/node/2295396/middle-east;https://www.newarab.com/news/deportation-syrians-kicks-wave-racism-lebanon

[3] https://www.voanews.com/a/anti-refugee-rhetoric-forced-deportations-of-syrians-increase-in-lebanon-/7117392.html

[4] https://data.unhcr.org/en/documents/details/90589

status, and support from group leaders, can reduce prejudice, forge friendships, and improve intergroup relations on the whole (Allport, Clark and Pettigrew 1954). Policy debates on immigrant or refugee integration often implicitly draw on the contact hypothesis, with OECD governments investing a combined 390 million USD annually into citizen-targeted peace-building efforts between 2000 and 2013 (Ditlmann and Samii 2016). A meta-analysis of contact experiments finds that contact "typically reduces prejudice " (Paluck et al. 2021), but effects seem highly contextual, and their magnitudes significantly smaller in fragile settings. For instance, cooperative contact improved relations between different castes in an Indian cricket league (Lowe 2021), and ethnic groups in South African (Corno, La Ferrara and Burns 2022) and American (Carrell, Hoekstra and West 2015) university settings, but had more ambiguous effects among Muslims and Christians in an Iraqi soccer league (Mousa 2020) and in a Nigerian computer training program (Scacco and Warren 2018). The mixed results from recently post-violent settings casts doubt on the effectiveness of contact as a tool for social reconstruction in the aftermath of war.

Moreover, despite the volume of programming and existing research on contact, existing evidence remains poorly equipped to basic questions about the effects of intergroup contact on migrant-host relations. Paluck et al.'s meta-analysis identifies only two high-quality experiments that involve newly mixed populations, and neither focuses on refugee interactions with members of host communities (2021). The evidence we do have seems contradictory at first blush: exposure to refugees dampened support for the far-right among Austrians (Steinmayr 2021) but increased it among Greeks (Hangartner et al. 2019). Both studies point to the importance of meaningful contact — sustained, positive interactions — as driving the results, supported by mostly observational evidence on meaningful immigrant-native contact found elsewhere in Europe (Finseraas and Kotsadam 2017; Andersson and Dehdari 2021; Homola and Tavits 2018; Clayton, Ferwerda and Horiuchi 2021) and Lebanon (Ghosn, Braithwaite and Chu 2019). Whether refugee-host contact can build social cohesion thus remains a fairly open question. This is particularly true in the Global South, where 8

out of 10 of the worlds' refugees reside (Christophersen 2023). The Global South differs from the European context in two key ways: refugees and hosts often share a common language and culture, potentially amplifying contact effects by making initial connections easier, but where economic anxieties tend to be more profound, and may activate xenophobia more readily (Lebow et al. 2024).

Empathy education interventions, on the other hand, center on the idea that cognitive empathy — the capacity to understand how other people might be thinking or feeling — is a skill that can be taught, and is central to interpersonal relationships (Galinsky and Moskowitz 2000). A small but growing experimental literature finds positive returns to empathy education on reducing prejudice toward refugees. A field experiment conducted in Turkish public schools finds that empathy education reduced bullying, built friendships, and improved attitudes toward Syrian refugees, who also performed better on Turkish language exams as a result (Alan et al. 2021). Brief perspective-taking exercises similarly reduced prejudice toward refugees in the U.S. (Adida, Lo and Platas 2018), Hungary (Simonovits, Kezdi and Kardos 2018), and Colombia (Bandiera et al. 2024), aligning with positive results on perspective-taking on a range of outgroup attitudes in the U.S. (Kalla and Broockman 2023). Because empathy training stresses the importance of analyzing social situations through slow deliberations (Alan et al. 2021), findings from this evidence base align with positive effects of similar processes of patience, self-regulation, and careful deliberation on crime and violence in other contexts (Heller et al. 2017; Blattman, Jamison and Sheridan 2017; Alan and Ertac 2018).

We hypothesize that combining both intergroup contact and empathy education may unlock even greater returns to social cohesion. This is because the contact hypothesis implicitly assumes that contact alone is enough to encourage participants to empathize with out-group members, and will necessarily teach participants how to cooperate with one another with no further guidance, structure, or training on managing interpersonal conflict. We do not take this assumption for granted, especially when intergroup relations

are contentious, and interventions target youth with lower levels of emotion regulation. We propose that training participants on how to empathize and cooperate, using curricula tailored to the local setting, is better suited to activate the effects of contact than relying on contact alone. Combining the two approaches also speaks to the effects of intergroup contact in more traditional classroom environments, where policymakers wield a potentially powerful lever for encouraging intergroup contact through institutional design choices (e.g. Billings, Chyn and Haggag (2021)). We seek to measure the effects of both intergroup contact and empathy education within a single experimental framework.

To test these hypotheses, we conduct a field experiment with *Amel Association International* (Amel) — a local NGO with a long history of providing mental health-oriented programming to vulnerable communities in Lebanon. Leveraging Amel's well-established psycho-social support program, we randomize $n$ = 1,455 participants (roughly 887 youth and 595 of their parents) into two treatment arms: (1) intergroup contact (heterogeneous vs. homogeneous psycho-social support sessions); and (2) empathy education (vs. a placebo nutrition on health and nutrition), over the course of a 12-week program. This allows us to test the effects of contact, empathy education, and importantly, the combination of the two.

In addition to cross-randomizing contact and empathy education, we make three empirical contributions. First, we measure real-world behaviors that capture social cohesion outside of the study setting several weeks after the intervention concludes. Because most contact studies rely on self-reported attitudes measured within days of the treatment (Al Ramiah and Hewstone 2013), policymakers and scholars remain skeptical about the ability of contact to change everyday behaviors toward the outgroup (Paluck et al. 2021). These everyday behaviors represent the ultimate quantity of interest from a policymaking perspective — durable social cohesion (Mousa 2020). Second, we measure spillover effects among parents. Even if contact interventions are effective, they typically only reach a tiny fraction of the population (Enos 2017). Contact interventions should therefore be activate spillover effects among household members through a process of social diffusion, to be consid-

ered worthwhile. Such a process can be driven by changing norms around the acceptability of intergroup contact, and making clear that positive contact experiences are possible (the so-called 'extended contact' hypothesis), in spite of negative experiences in the past (Zhou et al. 2019; Grady et al. 2023). We measure these spillover effects by enrolling participants' parents as research subjects. Finally, contact interventions are often criticized for instrumentalizing minority-group members "for the purpose of attitude change among the majority" (Paluck and Clark 2020). We here devote equal attention to minority-group participants in several ways: Syrians make up over half the sample, we ask Syrians questions about their psychological integration and mental health, and characterize the process of social cohesion as a two-way process by which the minority-group must be willing to integrate, and the majority-group be willing to accept them.

We find that empathy vs. contact interventions come with different sets of trade-offs. Empathy education improved youth participants' willingness to attend mixed social events, but worsened self-reported knowledge on how to deal with conflict, as well as the skills needed to resolve conflict, all without significantly shifting prejudice. Contact, on the other hand, is more effective at improving conflict resolution knowledge and skills, but comes at the cost of participants attending mixed social events, possibly because of saturation effects. By and large, we do not detect any spillover effects among parents, but we do find suggestive evidence that contact also worsens feelings of psychological connectedness in Lebanon among both Syrian and Lebanese parents. The combined treatment yields null results, perhaps because the effects of its individual components often run in opposite directions. Counterintuitively, our results suggest that contact may actually be better-suited to build the knowledge and skills needed to mitigate interpersonal conflict than educational materials specifically designed for this purpose. Overall, the mixed results identified here should give us pause before prescribing either contact- or empathy-based interventions in contentious settings.

# 2 Context: Lebanese-Syrian relations and the Amel program

Despite deep cultural ties and relatively free movement between the two neighbors, the history of Lebanese-Syrian relations is a tense and often bloody one. Syrian forces invaded Lebanon at the outset of the Lebanese civil war in 1976, only withdrawing 29 years later in 2005 as a result of mounting international pressure following the assassination of Lebanese Prime Minister Rafic Hariri. The legacy of the Syrian occupation, which involved heavy military and political interference in Lebanese affairs as well as everyday repression of Lebanese citizens, largely defined Lebanese attitudes toward Syrians in the subsequent years. The outbreak of the Syrian revolution and subsequent civil war in 2011 reversed the power dynamic, but did little to improve Lebanese attitudes.

As of 2023, Lebanon is home to the largest number of refugees per capita in the world.[5] Hosting refugees at this scale requires a sophisticated policy response even in the most well-functioning of societies — a challenge made all the more complex in Lebanon, which has suffered from deepening political and economic meltdowns in the wake of the Syrian refugee crisis. Even before Lebanon's 2019 currency devaluation and hyperinflation crisis, Syrians had limited access to employment, housing, education, and healthcare, including being barred entirely from professions like law and medicine, and being forbidden from purchasing property. Further restrictions were imposed in 2023, when Syrian refugees were ordered to stay in their homes for two days during the Lebanese elections, and when the Lebanese Armed Forces deported over 13,000 of Syrians, many of whom were unaccompanied children.[6] There is no path to permanent residency, citizenship, or regularization for most Syrian refugees. The strain of what the World Bank deemed one of the worst economic crises in the past 150 years has taken its toll on intergroup relations, with Syrians accused of benefiting from aid dollars inaccessible to Lebanese and scapegoated by politicians for

[5]https://www.unhcr.org/lb/at-a-glance
[6]https://www.hrw.org/news/2024/04/25/lebanon-stepped-repression-syrians

Lebanons' various ills.

As Syrians began to arrive en masse in 2011, they were met by a small but vibrant network of domestic NGOs providing services to Lebanon's most vulnerable communities. One such NGO, and the research partner for this study, is Amel. Amel was founded as a secular non-profit in 1979 to provide medical, educational, and psycho-social services in the wake of the Israeli invasion and Lebanese civil war, with a focus on two communities (Chiyah and Ain el Remaneh) where different ethnic groups lived in close proximity, but remained socially segregated. Amels' mission from its inception was to provide critical services to local residents in need, and in doing so, bring together diverse groups which would otherwise lack opportunities for meaningful intergroup contact.

Amel continued to work toward this mission with the launch of its child protection unit in 1990. Its flagship program remains the Family Psycho-Social Support Program (FPSS), which has been running in one form or another since the 1980s. The latest iteration, developed by UNICEF and Balamand University, has graduated over 10,000 youth participants from 2011 to 2021. The program aims to build a safe environment for at-risk children and their families through prevention and response services, with a focus on improving mental health and well-being, and preventing and responding to violence, abuse, and exploitation. The program has historically been funded by UNICEF, alongside other international aid donors. Sessions are conducted outdoors and in groups of 8 - 15; the group-based structure of this program makes it an ideal candidate for our cluster-randomized experimental design.

Like all of Amel's programs, the main beneficiaries are primarily Syrian refugees (65%), followed by Lebanese citizens (40%), and Palestinian refugees (5%). The program is designed to cater to children aged 12 to 17 years old, who are children at-risk of child labor, PTSD, domestic violence, and to a lesser extent, substance abuse. While Amel has 18 locations across Lebanon, this study focused on 3 centers, each in a different Governerate: Hay el Sellum (Mount Lebanon Governorate), Kamed el Loz (Bekaa Governorate), and Al Ain (Baalbeck-Hermel Governorate). Lebanese and Syrian communities being served by

these Amel centers both suffer from poverty, unstable home lives and subsequent behavioral disorders, and frequent teacher strikes at local public schools. Syrian children suffer from added burdens because of their lack of permanent residency, discrimination from the host community, and higher poverty rates — which, in turn, increase child labor and school drop-out rates. While Amel does not collect data on religious affiliation as a matter of principle, participants are drawn from communities that are primarily Muslim, although they differ in sect and national origin in some locations.[7] Amel is the main non-government provider of services in the three study sites, and does so without regard to national origin.

As with their parents, opportunities for meaningful intergroup contact among children are sparse. While schools are typically seen as an ideal environment for fostering positive intergroup contact (Billings, Chyn and Haggag 2021; Alan et al. 2021), Lebanese public schools are segregated by nationality: Lebanese children attend the morning shift, while Syrian children attend the afternoon shift. This policy decision allowed the Lebanese education system to expand its capacity and meet each community's curricular demands, but came at the cost of fostering positive intergroup interactions. As a result, over half of the youth participants (52%) reported that they did not have a single friend from the outgroup (Figure G2) — despite living their entire lives adjacent to each other. This context is ideal for a contact experiment in many ways: intergroup contact is physically possible but socially impeded, and prejudice is a large enough problem to solve that an intervention is warranted, but not so extreme such that fostering contact would be dangerous and unethical.

All program participants receive the standard 12-week FPSS program, delivered by Amel instructors trained in child psycho-social support. The sessions ran once a week, for two hours, including a short snack break. Core FPSS topics include: positive communication skills, expressing emotion, anger management, problem solving, friendship and peer-to-peer relationships, identity and community, hopes for the future, and child rights. The sessions

[7]Hey El Selloum residents are mainly Lebanese Shia and Syrian Sunnis, Kamed el Loz residents are largely Sunni Lebanese and Syrians, and Al Ain residents consist of a mixture of Sunni and Shia Lebanese, and Sunni Syrians.

themselves are highly structured and center around a close-knit group of 10-12 children, which remains the seem for the duration of the three months. Children commit to ground rules around respect and active listening, the sessions are closed-door Amel safe spaces, and facilitators frequently remind children to respect and validate each others' experiences. The activities themselves are designed to be interactive, with children prompted to provide feedback on each others' contributions, engage in role-playing activities, and work together on joint tasks to hit the sessions' key messages and objectives. Contact within the FPSS sessions is thus cooperative, egalitarian, and endorsed by respected authorities; three conditions thought to be critical for contact to reduce prejudice (Allport, Clark and Pettigrew 1954). The program is advertised to prospective participants through internal referrals at Amel, as well as through outreach at local public schools. During the study period, a mix of Syrian and Lebanese facilitators ran the FPSS sessions in Al Ain and Kamed el Loz, while Lebanese facilitators ran those in Hey el Selloum.

Working with a Lebanese child development scholar, we also developed two added curricula: an empathy-building curriculum, and a health and nutrition curriculum that served as a placebo, for 8 sessions out of 24. The empathy sessions cover topics rooted in perspective-giving and -taking. Topics include understanding others' feelings, active listening, and building friendships with diverse peers (see Table 1 for a summary of the curriculum). While the sessions cover topics such as developing and maintaining friendships with peers from different backgrounds, the Syrian-Lebanese social conflict was not explicitly discussed. This approach of developing childrens' empathy skills without increasing the salience of the refugee-native division is similar to that taken by Ala'Alrababah et al. (2020) in Jordan, and roughly in line with other perspective-taking interventions found to durably reduce prejudice among adults in the U.S. (Kalla and Broockman 2023). The 8 sessions comprising the placebo health curriculum, on the other hand, discussed topics that should not theoretically have any bearing on intergroup relations, such as leading an active lifestyle in a digital age, substance abuse, and personal hygiene (see Table C1 for a summary). To encourage a degree

of standardization, facilitators were given detailed lesson plans for each session that included the following components: objectives, life skills to be taught, key messages, preparation, facilitator notes, session flow, instructions for at least two activities, and notes for processing, generalization, and closing reflections.

Table 1: Empathy Education Curriculum

| **Topic** | **Content** |
|---|---|
| 1. Self-esteem | Self-acceptance as is, self-awareness, goal setting |
| 2. My Identity | Affirming identity and responsibility, resisting pressure, redefining self-position, self-management and self-control |
| 3. Empathy | Understanding my emotions, understanding empathizing with others, emotional regulation |
| 4. Active Listening | How to listen to others, bridging the gap between You and I, interpersonal communication |
| 5. Community | Collaborating in my groups and communities, rights and responsibilities towards self and others, treating others with respect, cooperation, respect, and teamwork |
| 6. Inclusive Friendships | Accepting and understanding others, respecting differing opinions, communication and relationship building |
| 7. Interpersonal conflict | Responding to peer pressure and bullying, negotiating beyond win-lose scenarios, decision making and problem solving, negotiation, assertiveness, and refusal skills |
| 8. Trust | Relying on oneself and others, building trust, self-control, and critical thinking |

Summary of weekly empathy education sessions.

# 3 Empirical Strategy

We randomly assign individual participants to: (1) attend either heterogeneous or homogeneous classrooms; and (2) receive either an empathy curriculum, or a placebo curriculum focused on health and nutrition. We measure attitudes, quasi-behaviors embedded in a sur-

vey, and real-world behaviors. We measure these outcomes among direct participants, as well as spillover effects among their parents. Attitudes and quasi-behaviors are measured via a baseline and endline survey administered roughly two weeks before and after the program begins and ends, respectively. Behavioral outcomes are measured three to four weeks after the program concludes.

## 3.1 Experimental protocol

The experimental protocol is as follows. First, program staff at Amel begin conducting outreach to potential program participants. This is done through advertisements at local public schools and in Amels' offices at the three participating study locations. The parents of interested participants are asked to fill in a registration form, as well as a baseline survey, which includes all of the variables needed to conduct the randomization described below. Program (youth) participants themselves are then asked to fill in a baseline survey as well. After all baseline surveys are complete, we inform participants and their parents of their group assignment. The program itself consists of a 12-week psycho-social support program delivered by Amel facilitators, with the final 4 weeks focused on empathy education or a placebo curriculum focused on health an nutrition (described in section 2).

To increase precision, and to handle constraints that arise from the particularities of the field setting, we conduct a randomization in two steps. First, children are randomly allocated to a study group conditional on three factors: (1) location (one of three study sites with an Amel office); (2) scheduling availability (Friday mornings, Friday evenings, other weekday mornings, other weekday evenings), and (3) having enrolled siblings, as most parents require siblings to attend the same sessions for practical purposes. Group sizes are randomly chosen among those that minimize the deviation from an optimal group size of 11 children per group. Half of the groups are assigned to be heterogeneous with regard to the participants' nationality, while the other half are assigned to be homogeneous (i.e. all-Syrian or all-Lebanese). Additionally, we verify that each group contains at least two boys and at

least two girls, and that there are no obvious outliers based on age. This randomization procedure is a deviation from the simple block-randomization specified in the pre-analysis plan, which was made necessary by the constraints arising from the field context.

Importantly, Amel, like most NGOs, would typically allow participants to sign up for whichever program session suits them best. This system is not ideal for optimizing for positive intergroup contact for two reasons. First, because Syrian and Lebanese children attend different school shifts, their schedules have little overlap — Lebanese children are free in the afternoons, while Syrian children are free in the mornings. Syrian children also have the added constraint of high child labor rates, which further affects scheduling availability. Second, selection bias poses a serious threat to intergroup contact — indeed, motivating the need for experimental tests of contact in the first place (Paluck et al. 2021). Interviews with Amel staff in the Child Protection Department reinforced concerns of selection bias, stressing that Lebanese and Syrian beneficiaries alike tended to avoid each other when signing up for programs, and conditional on being assigned to a mixed session, tended to avoid sitting near each other.[8]

We work with Amel to expand the range of time slots that the FPSS program is offered, find sufficient overlap in availability across the two communities, and randomize class assignments to eliminate the role of selection in or out of a certain class because of baseline prejudice. These design choices put little added strain on Amel staff, and represented a large increase in the probability of their average youth beneficiary experiencing positive intergroup contact. When piloting study, we found that 44% of potential participants would have zero overlap with the outgroup given the old set of session times. Expending the range of session times and randomly allocating participants to one of them increased this number to xx% — suggesting significant selection bias in the status quo registration process.

Two weeks after the psycho-social support program ends, participants and their parents are asked to return to Amels' office to fill in an endline survey. Two weeks after the

[8]Author interviews with two child protection program officers, August 2021, online.

endline survey is complete — one month after the program ends —participants and their parents are invited to attend two events, which all serve as behavioral outcomes, described below. This process is repeated for four program cycles at each of the three locations, which ran through June 2022 to August 2023.[9]

# 4 Outcomes

We measure attitudes, quasi-behaviors embedded in a survey, and real-world behaviors for all program participants and their parents. These outcomes capture prejudice, friendship, altruism, social norms, comfort (anxiety), all with respect to the outgroup. These outcomes were preregistered with Evidence in Governance and Politics (EGAP Registration Number 20230322AA).

## 4.1 Attitudinal outcomes

Attitudinal outcomes are based on a list of 10 survey items drawn from both parent and youth surveys. Using baseline data from all four cycles, we run a hierarchical clustering model on these items to detect latent clusters of related variables. We do this twice — once for youth, and once for parents. We then run a factor analysis on these indexes and drop any index with a Cronbach's alpha below 0.7. This way of identifying outcome indexes is entirely data-driven — a principled way to increase statistical power relative to manually selecting items to create an index. This method yields indices we label *Social proximity*, *Conflict knowledge*, *Conflict skill*, and *Emotional skill* for youth (summarized in Table 2), and the indices *Social proximity*, *Market impartiality*, *Arbitrary divide*, and *Universalism* for parents (summarized in Table D1). Further detail on the indexing procedure can be found in Appendix section D.

[9]More specifically, cycle 1 took place between June — September 2022, cycle 2 from October — December 2022, cycle 3 from February — April 2023, and cycle 4 from June — Aug 2023.

| Factor (Cronbach's $\alpha$) | Variable | Item text |
|---|---|---|
| Social proximity (.74) | *common* | How much do you think you have in common with kids from Lebanon/Syria? |
| | *frndly* | In general, Lebanese people are friendly toward Syrians/Lebanese. |
| | *frifri* | My Syrian friends would be supportive if I became close friends with someone Lebanese/Syrian. |
| | *closfri* | I can imagine becoming close friends with someone Lebanese/Syrian. |
| | *famfri* | My family would be supportive if I became close friends with someone Lebanese/Syrian. |
| Conflict knowledge (-) | *conflict* | Conflict is something that should not happen/a normal part of life. |
| Conflict skill (-) | *stepin* | Let's say two of your friends got into an argument and they ask for your help resolving it. How comfortable would you feel about stepping in to help? |
| Emotional skill (-) | *frnsad* | When a friend is sad, I usually understand why. |

Table 2: Outcome indices for youth.

## 4.2 Behavioral outcomes

We worked closely with Amel program staff to co-design behavioral outcomes that capture social cohesion in the local context. Interviews with Amel staff, guided by the prompt of "how would you know if Lebanese and Syrian in this community were no longer prejudiced toward each other?", led us to measure interest in the outgroups' culture. Our two key behavioral outcomes are RSVPing to, and actually attending, an event that celebrates the outgroups' culture (either Syrian or Lebanese). Amel regularly hosts cultural and social events for its clients, so their hosting of a Syrian and Lebanese *dabke* dance performance — which brought in professional dance troupes from third-party organizations — was not unusual from the perspective of research participants, and represents a locally-tailored, naturalistic measure of social cohesion. These discrete behavioral outcomes come with several benefits: very low measurement error, no missing data, and very low social desirability bias. This final advantage is particularly important when evaluating educational interventions in the realm of intergroup relations, where participants may simply learn what the 'right' answer

is without changing deep-held beliefs or behaviors. Attending the event indicates interest in, and respect for, the outgroups' culture. Conditional on attending, participants did not tend to self-segregate, with youth attendees in particular joining in the *dabke*.

Invitations are sent to parents and children immediately after the program ends, and the events themselves take place two to four weeks after the end of the program. Whether the Syrian or Lebanese event came first was randomized for each cycle. A third outcome is a quasi-behavior, embedded in the endline survey for both parents and children. We ask respondents if they would prefer the research staff to donate books on their behalf to disadvantaged Lebanese children, Syrian children, or both — with choosing the mixed beneficiary group (or the outgroup) coded as a positive response.[10]

# 5 Estimation

We estimate average treatment effects by regressing the outcomes on the treatment indicators (contact and empathy), their interaction, and a battery of covariates: program cycle, age, gender, nationality, education, whether the respondent is employed (asked of both parents and children), and the outcome question measured at baseline wherever possible to increase precision. In order to account for the randomization constraints in the field, we additionally control for participants' scheduling availability.[11] Instead of the standard OLS estimator specified in the pre-analysis plan, we employ the Lin estimator — a much more robust estimator given unequal assignment probabilities across groups; evident in our case because of different numbers of Syrian vs. Lebanese registrants (Lin 2013). We cluster standard errors at the classroom level; the same level at which randomization takes place (Abadie

[10] We here deviate from the pre-analysis plan in three minor ways. First, we add *Donation* — a survey question asking whether respondents preferred to donate to an ingroup cause, a neutral cause, or an outgroup cause — as a quasi-behavioral outcome. Second, we refrain from collapsing all behaviors into an index. We do this to ease the interpretation of effect sizes, and because RSVPing to, and actually attending, the outgroup cultural event are highly correlated. Finally, we drop the attending an arts and crafts workshop as an outcome, as the event in practice did not emphasize diversity in a way that would make it sufficiently meaningful for our study.

[11] This control takes the form of an availability dummy for each shift (Monday morning, Monday evening, Friday morning, Friday evening).

et al. 2023). In order to account for multiple comparisons, we apply the Benjamini-Hochberg (BH) correction at the $\alpha = 0.1$ level for the three behavioral outcomes (RSVP, Attendance, and Donation) and for the skill outcomes (Conflict knowledge, Conflict skill, and Emotional skill).[12]

We also analyze heterogeneous treatment effects based on the following four baseline variables for youth participants: nationality, gender, baseline contact (having no outgroup friends vs. having at least one), and household income. For parents, we analyze heterogeneous treatment effects based on nationality, gender, and baseline contact (never had a meal with the outgroup vs. had at least one meal with the outgroup).

In addition to our pre-registered outcomes, we run the following analyses: combining all behaviors and attitudes into a holistic outcome index, and adding mental health survey questions as outcomes. We also compare the effect of the contact treatment to the curriculum treatment by conducting a linear hypothesis test on whether the difference between the two effects is zero in the full model.

# 6 Data

We collect baseline and endline data for 887 youth participants (59% of whom are Syrian) distributed across 81 classrooms (clusters) and 595 parents (58% of whom are Syrian). Drop-out rates, defined as a child attending fewer than 50% of all sessions, were low: 3.9% for youth and 2.0% for parent respondents (see section E for a detailed breakdown). Starting with youth, Table 3 summarizes the baseline survey data. The median youth participant was 12, with the sample ranging from 10 to 18 year olds. We record relatively high rates of poverty: 14% of youth participants reported that they had a job. In terms of intergroup relations, over half reported that none of their friends were from the outgroup, and a similar

[12]This is a deviation from the pre-analysis plan, which grouped all survey outcomes and all behavioral outcomes together. The current approach takes into account that clear clusters emerged from the survey data which should be treated as separate families of outcomes — notably, the social proximity index differs substantively in the concept being measured relative to the three other survey-based outcomes.

portion were convinced that they had "nothing" or only "some things" in common with the outgroup, despite the median respondent agreeing that the other group was generally friendly toward them.

Table 3: Youth Baseline Summary Statistics

| Variable | N | Min | Max | Median | Mean | SD |
|---|---|---|---|---|---|---|
| Cycle | 888 | 1 | 4 | 3 | 2.77 | 1.04 |
| Age | 888 | 10 | 18 | 12 | 12.59 | 1.57 |
| Education level | 887 | 0 | 3 | 1 | 1.40 | 0.65 |
| Gender (1 = Female) | 888 | 0 | 1 | 1 | 0.55 | 0.50 |
| Nationality (1 = Syrian) | 888 | 0 | 1 | 1 | 0.58 | 0.49 |
| Work dummy | 888 | 0 | 1 | 0 | 0.14 | 0.35 |
| Outgroup friends | 887 | 0 | 2 | 0 | 0.49 | 0.53 |
| In common with outgroup | 888 | 0 | 2 | 1 | 0.82 | 0.64 |
| Outgroup friendly | 888 | 0 | 3 | 2 | 1.63 | 0.73 |

Pivoting to parents, Table 4 presents descriptive statistics of their baseline survey data. The median parent respondent is 42 years old, married (87%), does not have a high school diploma (82.5%), has a household size of 6 and has one child participating in the FPSS program. Poverty is widespread, with 100% of all respondents reporting having gone without medicine or kerosene at least once in the last three months — and 53% having gone without both — and less than a third of respondents (28.3%) report being employed either full or part time. Unsurprisingly, mental health is poor, with the median respondent feeling "cheerful and in good spirits' less than once a month. Parents do seem to report more positive outgroup attitudes relative to their children, however: 86% report that they share "some things" or "most things" in common with the outgroup; 18 percentage-points higher than their children (68%). Over two-thirds of parents report that they would feel

comfortable if their son or daughter married an outgroup member, although tolerance is stronger among Syrian parents (80% agreement) than Lebanese ones (52%), a pattern seen across most questions on intergroup relations. Although nationally representative surveys of Lebanese on intergroup relations are scarce, our study participants — either by virtue of being surveyed a decade later, or because of their proximity to Syrian refugees — seem more tolerant than their compatriots surveyed in 2013 (Christophersen et al. 2013).

Roughly a quarter ($n = 260$) of youth participants were assigned to the pure control condition — meaning they were assigned to homogeneous classrooms and received the placebo health and nutrition curriculum. Of the remaining participants, 211 were assigned to the pure curriculum treatment (empathy-focused curriculum in homogeneous classrooms), 184 were assigned to the pure contact treatment (placebo curriculum in heterogeneous classrooms), and 233 were assigned the combined treatment (empathy curriculum in heterogeneous classrooms).[13]

To assess balance across treatment assignments, we run a linear model that regresses treatment status on demographic variables measured in the baseline survey. These coefficients are plotted in Figure F2. Approximately the same number of variables are significant at the 5 % level as what we would expect due to chance. Attendance rates also do not differ by treatment condition or by demographic groups: attendance for any given session hovered around 90% with no significant fluctuations based on treatment condition, program cycle, education, gender, nationality, or baseline prejudice (Figure E1).

[13] 106 participants had to be excluded from the analysis, as scheduling constraints did not allow for a randomization into different treatment conditions.

Table 4: Parent Baseline Summary Statistics

| Variable | N | Min | Max | Median | Mean | SD |
|---|---|---|---|---|---|---|
| Cycle | 570 | 1 | 4 | 3 | 2.78 | 1.01 |
| High school degree | 570 | 0 | 1 | 0 | 0.18 | 0.39 |
| Age | 570 | 26 | 66 | 42 | 41.88 | 6.78 |
| Gender (1 = Female) | 570 | 0 | 1 | 1 | 0.83 | 0.38 |
| Married | 570 | 0 | 1 | 1 | 0.88 | 0.33 |
| Nationality (1 = Syrian) | 570 | 0 | 1 | 1 | 0.58 | 0.49 |
| HH size | 567 | 2 | 8 | 6 | 6.06 | 1.45 |
| Gone without medicine/kerosine | 570 | 0 | 2 | 2 | 1.43 | 0.67 |
| Felt cheerful | 570 | 0 | 3 | 0 | 0.83 | 1.01 |
| Comfortable with outgroup marriage | 570 | 0 | 3 | 2 | 1.65 | 0.80 |
| In common with outgroup | 570 | 0 | 3 | 2 | 2.04 | 0.64 |
| Outgroup conversation past month | 570 | 0 | 4 | 2 | 1.78 | 1.48 |
| Camp/informal settlement | 570 | 0 | 1 | 0 | 0.49 | 0.50 |
| Lebanese neighborhood | 570 | 0 | 4 | 2 | 2.18 | 1.32 |
| Outgroup neighborhood | 570 | 0 | 4 | 1 | 1.45 | 1.22 |

# 7 Main results

Starting with youth participants, Figure 1 shows that being assigned to a mixed classroom had little effect on prejudicial attitudes; with null results for our social proximity index on average. We do, however, find that intergroup contact somewhat improves self-reported knowledge of how to resolving conflicts, as well as the skills to do so. This result is made more stark in a head-to-head test against the empathy treatment. We directly compare the effect of the two treatments with a linear hypothesis test in the full model, leveraging all

available power in our research design (Table J2). This analysis reveals that, compared to those assigned to homogeneous classrooms centered on empathy education, being assigned to mixed classrooms that received a placebo curriculum increases conflict resolution knowledge and skills by 20 - 22 percentage-points (see Figure 3).

Empathy education was more effective than contact, however, at reducing prejudice. Relative to contact, empathy education improved the social proximity index by roughly 20 percentage-points (Figure 1), driven by increases in positive social norms (feeling that one's friends and family would be supportive of an outgroup friendship), and self-other overlap (feeling that one had many things in common with the out-group I2), both shown in Figure I2. Empathy education also tripled the probability that Lebanese youth reported that Syrian refugees should be allowed to stay in Lebanon in the future (Figure **??**).[14] When it comes to attitudes, contact is therefore more effective at improving conflict resolution skills and confidence, whereas empathy education is more likely to reduce prejudice, as measured by social proximity on both sides and welcoming attitudes among natives.

Moving to behavioral outcomes, we find that contact reduces the likelihood of attending an event celebrating the outgroups' culture by 5 -10 percentage-points. This result holds whether the comparison group consists of homogeneous classrooms with empathy education (the head-to-head test in Figure 3) or all homogeneous classrooms regardless of curriculum (Figure 1). This negative treatment effect of contact is driven entirely by Lebanese participants, who are less likely to RSVP and to actually attend such an event (Figure 2). The positive effects of contact on attitudes — and negative effects of contact on behaviors — are further observed when collapsing similar outcomes into indices (Figure 1).

[14]By design, this question was asked only of Lebanese participants.

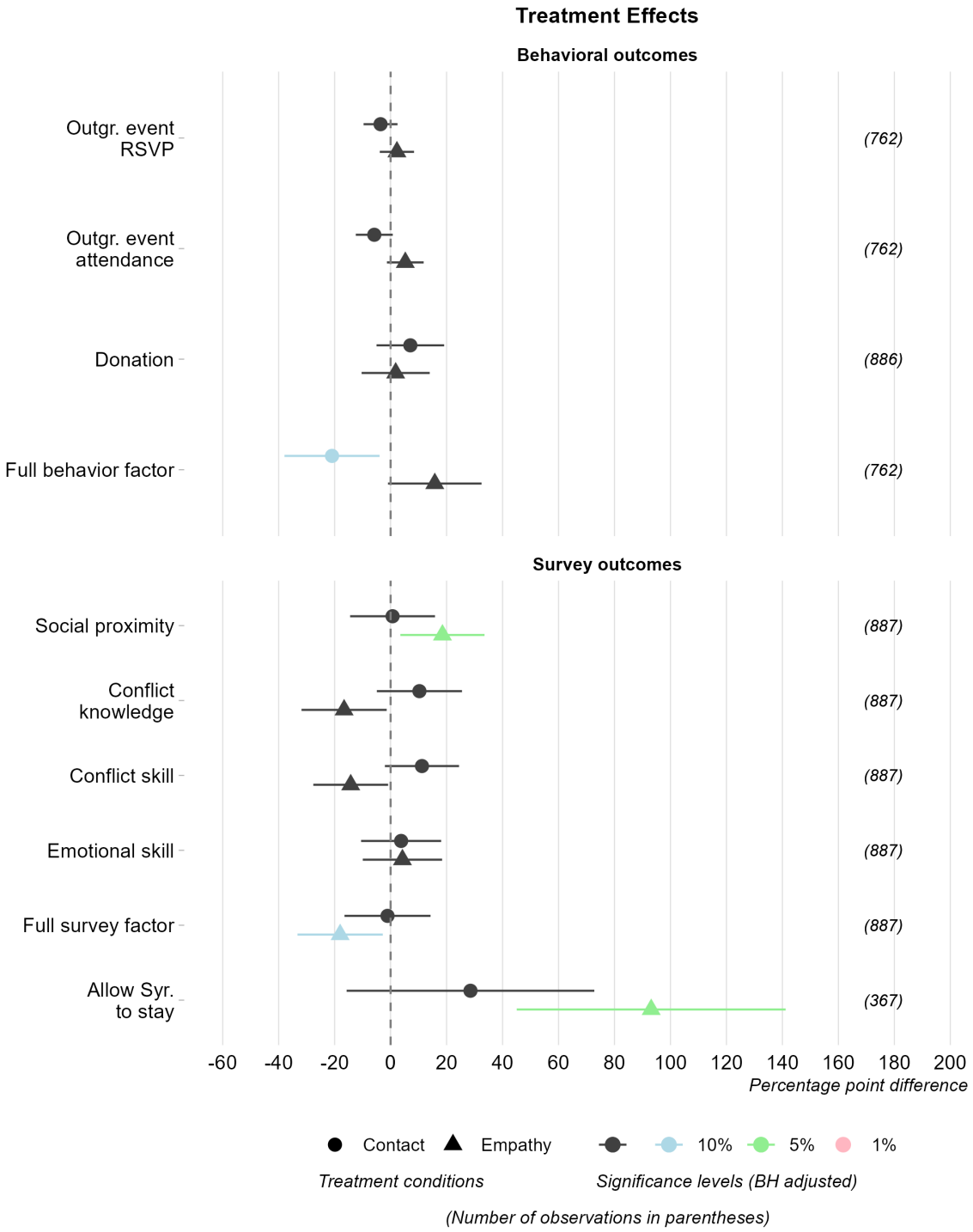


Figure 1: Effect of contact and empathy education

*Circles and triangles represent point estimates of the average treatment effects of contact treatment (heterogeneous vs. homogeneous group assignment) and empathy training treatment (peace-messaging curriculum vs. nutrition curriculum). Lines indicate 90 % confidence intervals.*

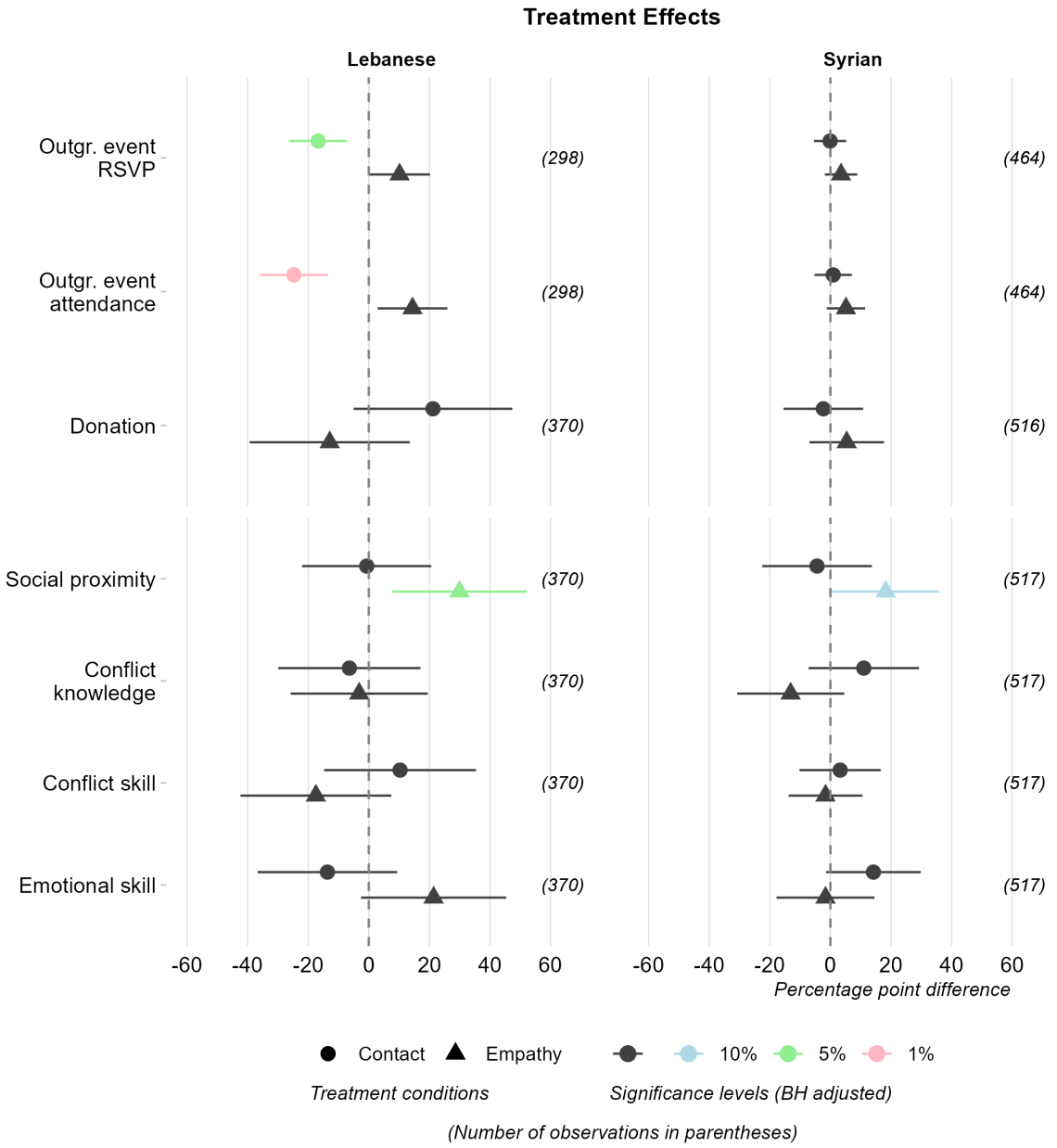


Figure 2: Youth results by nationality

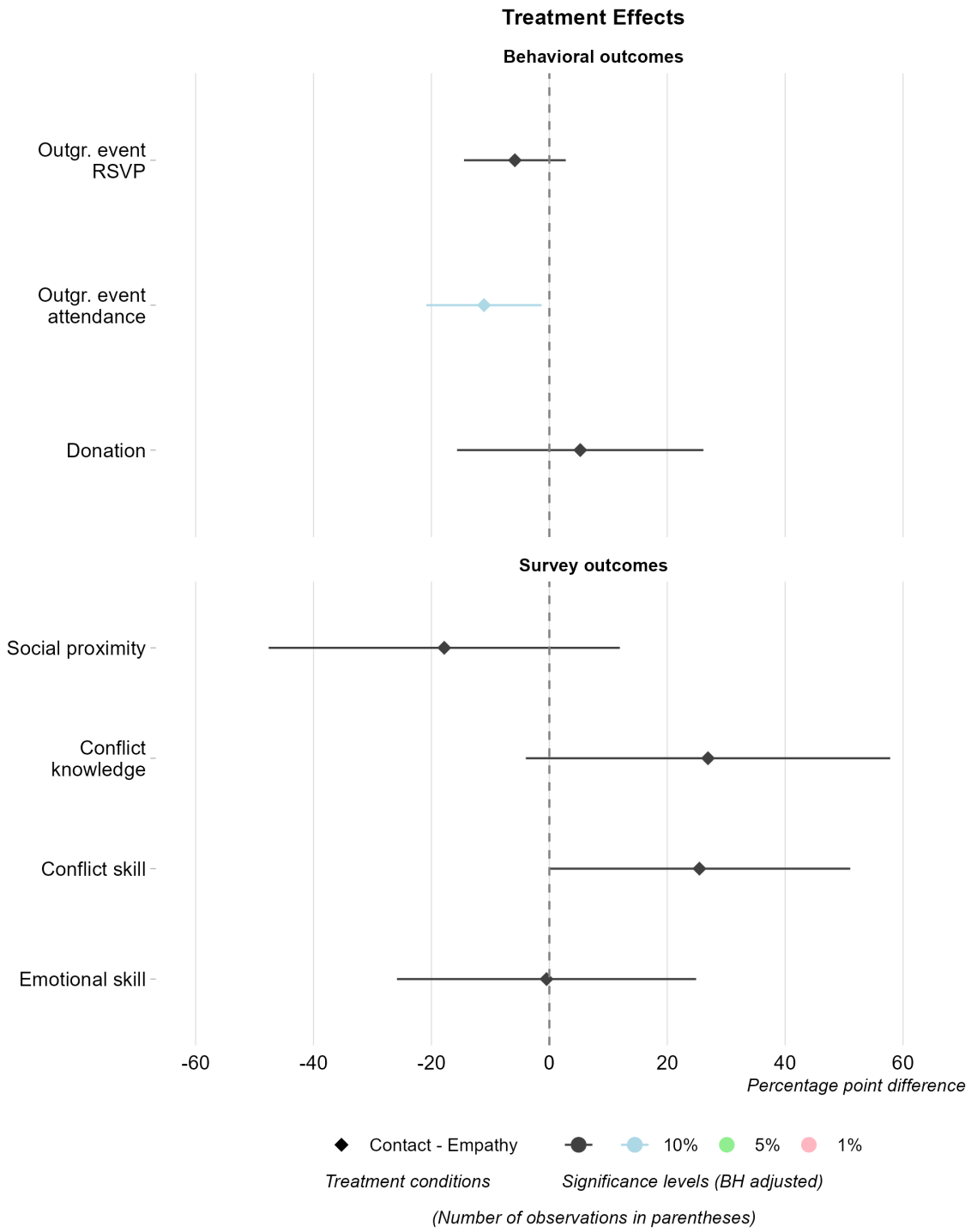


Figure 3: Difference between contact and empathy effects
*Diamonds represent point estimates of the difference between contact and empathy treatment in the full model. Lines indicate 90 % confidence intervals.*

Moving to spillover effects among parents, we find largely null results across the

board. Starting with contact, having a child assigned to a mixed classroom has null effects on all behavioral and attitudinal outcomes, with positive but imprecisely estimated results on market impartiality (10 percentage-points improvement; Figure 4). Empathy education leads to a similar pattern, with parents of children assigned to empathy education experiencing null treatment effects (Figure 4). The combined contact and empathy treatment — relative to all other conditions pooled together — yields similar effects to those of contact alone; with positive effects on market impartiality (21 percentage-points) but null results on other outcomes (Figure 4).

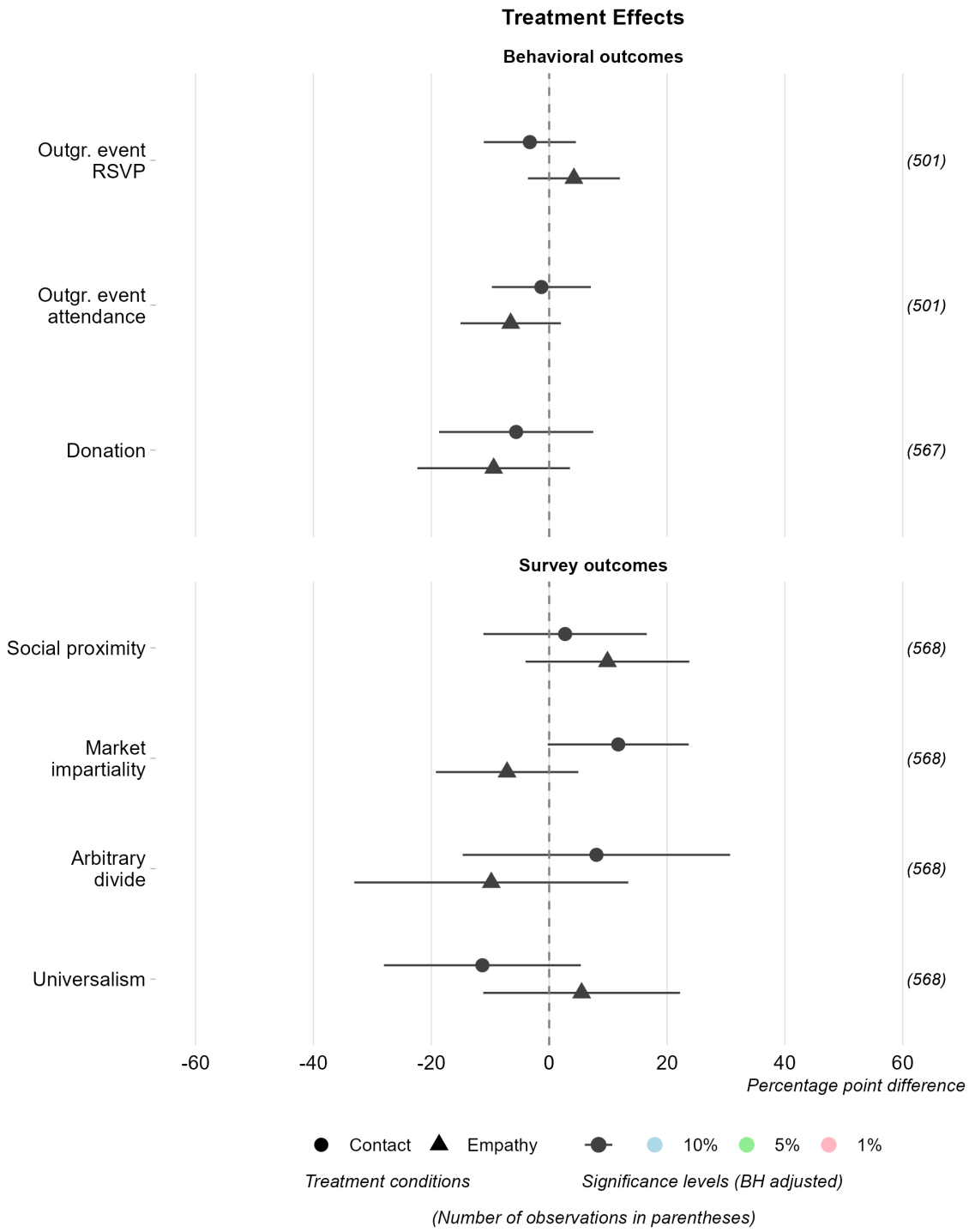


Figure 4: Spillover effects of contact and empathy education on parent outcomes

*Circles and triangles represent point estimates of parents' average treatment effects of contact treatment (child assigned to heterogeneous vs. homogeneous group assignment) and empathy training treatment (peace-messaging curriculum vs. nutrition curriculum). Lines indicate 90 % confidence intervals.*

Turning to heterogeneous treatment effects, we find that nationality shapes treatment effects in two notable ways. First, we find that the negative effects of contact on the probability of RSVPing or attending outgroup cultural events is driven by Lebanese participants (both youth and their parents), who are nearly 20 percentage-points less likely to attend an outgroup event relative to their Syrian peers assigned to the same mixed classrooms (Figures 2 and H7). In contrast, children of both nationalities responded in similarly positive ways to empathy education when it comes to social proximity (Figures 2). We also find suggestive evidence that parents whose children were assigned to mixed classrooms suffered a knock to their psychological integration. Under the contact condition, Lebanese parents were 40 percentage-points less likely to feel connected to Lebanon, while Syrian parents were 20 percentage-points more likely to feel like an outsider (Figure 7). We find no other consistent patterns of heterogeneity by gender, baseline levels of out-group exposure, or household income.

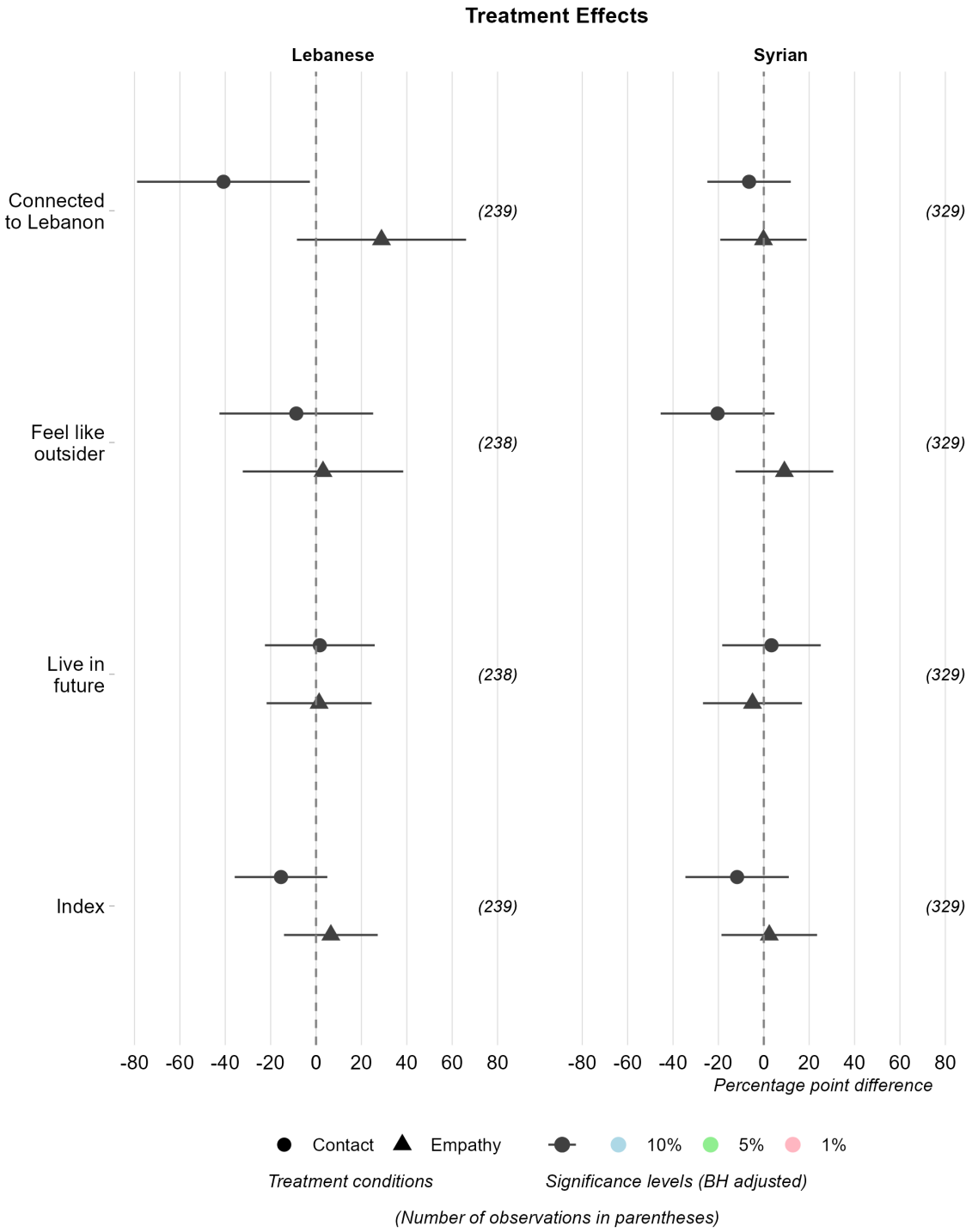


Figure 5: Spillover effect of contact and empathy curriculum treatment on psychological integration for Syrian parents

*Circles and triangles represent point estimates of parents' average treatment effects of contact treatment (child assigned to heterogeneous vs. homogeneous group assignment) and empathy training treatment (peace-messaging curriculum vs. nutrition curriculum), differentiated by family nationality. Squares represent interaction effect size. Lines indicate 90 % confidence intervals.*

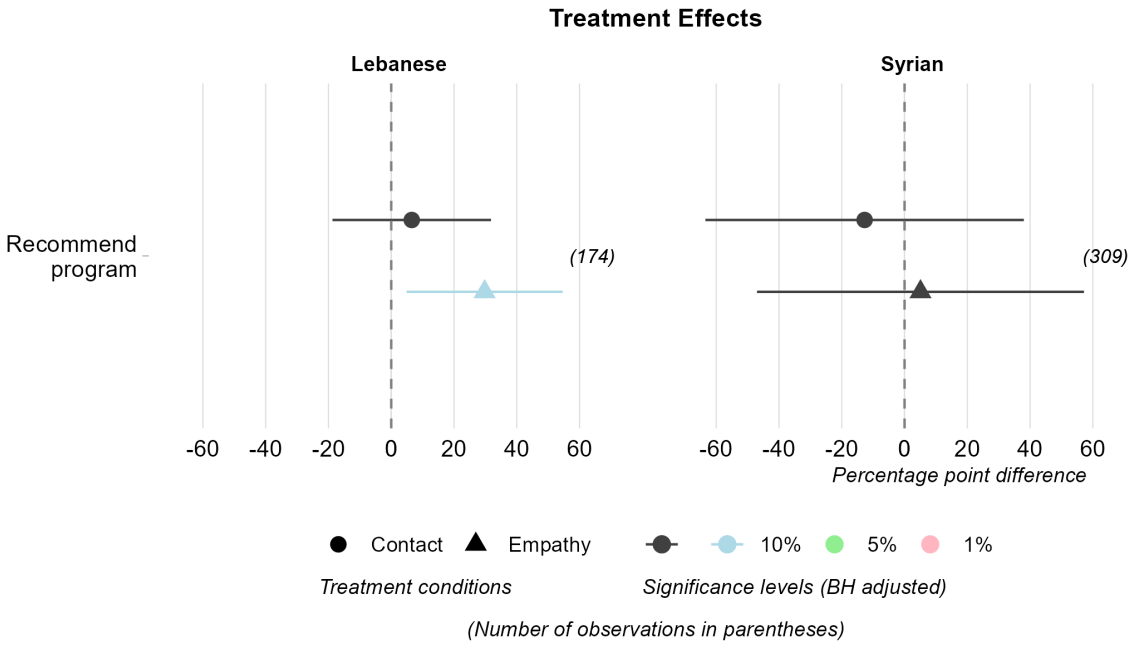


Figure 6: Effect of contact and empathy curriculum treatment on program recommendation
*Circles and triangles represent point estimates of average treatment effects of contact treatment (heterogeneous vs. homogeneous group assignment) and empathy training treatment (peace-messaging curriculum vs. nutrition curriculum), differentiated by nationality. Squares represent interaction effect size. Lines indicate 90 % confidence intervals.*

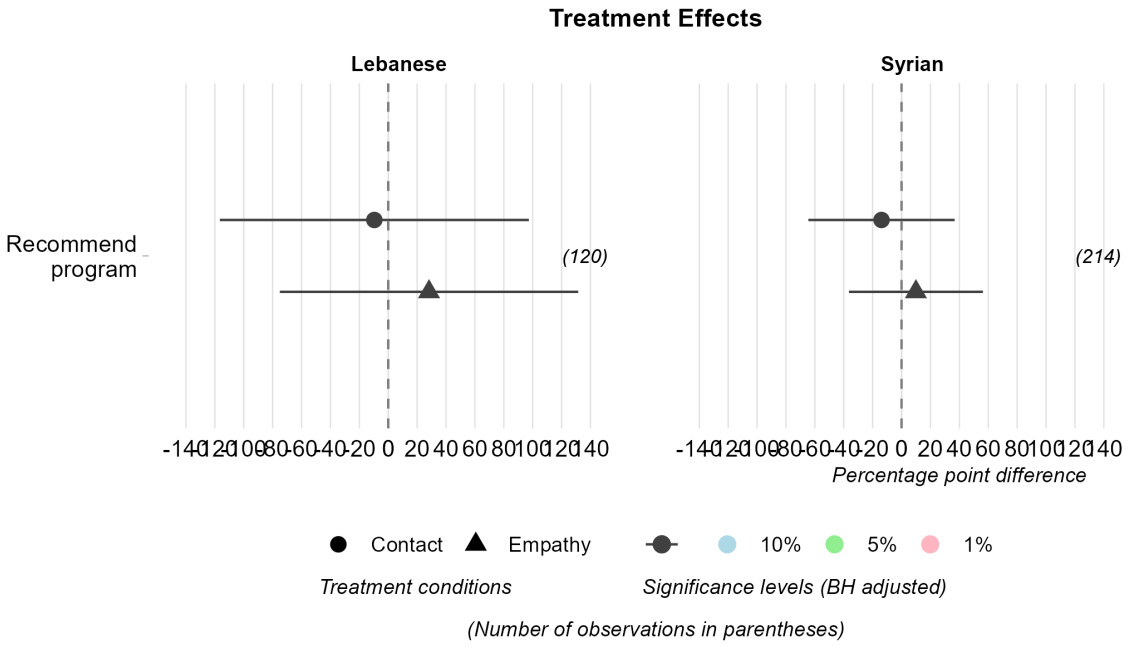


Figure 7: Spillover effect of contact and empathy curriculum treatment on program recommendation

*Circles and triangles represent point estimates of parents' average treatment effects of contact treatment (child assigned to heterogeneous vs. homogeneous group assignment) and empathy training treatment (peace-messaging curriculum vs. nutrition curriculum), differentiated by family nationality. Squares represent interaction effect size. Lines indicate 90 % confidence intervals.*

# 8 Discussion and Conclusions

As the number of forcibly displaced people continues to break records in the Arab world and beyond, and prospects for return in the foreseeable future continue to wane for many communities, so too does the need for effective policies to build social cohesion between new arrivals and host communities. Intergroup contact and empathy-building education are at the forefront of this work. We experimentally test these two approaches in Lebanon, where refugees and natives share a similar socio-economic status, language, religion, and culture, but where entrenched prejudice and structural segregation prevents meaningful relationships on both sides. Our baseline data suggests that these two sources of selection bias would have prevented 42% of participants from registering for a heterogeneous program session, pointing to the importance both of randomly assigning sessions, and of NGOs with a diverse base

of beneficiaries offering programs and services at times that optimize for positive intergroup interactions.

Embedding the study in a psycho-social support program, we find a different set of trade-offs associated with intergroup contact and empathy education. On the one hand, contact within the program lessened the desire for more contact outside of it, as measured by interest in attending an event that celebrates the outgroups' culture, and had no discernible effect on prejudicial attitudes. Yet contact was more effective than empathy education at improving the two outcomes traditionally tied to empathy education: knowledge of how to deal with interpersonal conflict, and confidence in one's skills to implement this knowledge. On the other hand, empathy education avoided the negative treatment effects of contact on our key behavioral outcome and also improved prejudicial attitudes, but failed to build the core competencies around interpersonal conflict resolution that it was designed for.

We cannot differentiate between two possibilities consistent with this counterintuitive result: that empathy education simply did not work, or that it did, but that it reduces participants' confidence in their self-reported knowledge and skills. We lean toward the latter possibility, speculating that this result may be driven by participants assigned to empathy education sessions becoming more aware of the wide range of conflict resolution techniques out there — which may increase their introspection and reduce their confidence regarding how to implement these skills. Studies of diversity, equity, and inclusion training similarly find small, short-term, and sometimes negative effects on self-reported knowledge (Kulik and Roberson 2008; Bezrukova et al. 2012; Dobbin and Kalev 2018).

The positive empathy effects we do find range in size from 10 to 20 percentage-points on cultural event attendance and social proximity, to 70 percentage-points on pro-refugee policy attitudes — effects that are orders of magnitude larger than those found in Alan et al. (2021)'s study of a perspective-taking intervention aimed improving attitudes toward Syrian refugees in Turkish schools. While we run the risk of over-estimating effect sizes because of sample size constraints (Gelman and Carlin 2014), we speculate that this difference in

magnitude may be explained by the exceptionally vulnerable child population who made up our research participants. Our Lebanese participants, while still part of the dominant group technically speaking, were socio-economically marginalized within Lebanese society. As such, prejudice may have been easier to overcome in this setting than in other host communities with a more pronounced socio-economic distinction between majority and minority. That we embedded our interventions within a psycho-social support program may have likewise amplified effects.

Importantly, empathy education also avoids the the backlash effects of contact on attending social events that celebrate the outgroups' culture. These negative effects of contact are driven by the dominant social group, Lebanese, and mirror negative results driven by majority-groups in other contact interventions, such as Hindu participant in an Indian youth camps Kundu, Lowe and Nellis (2024) and Jewish students in Israeli universities (Porat et al. N.d.). This backlash effect may point to saturation effects rather than an increase in prejudice per se: Contact in a classroom setting my offset the desire to further interact with the outgroup in one's free time. The 'saturation effect' interpretation is supported by two additional findings. First, parents and children with the highest baseline levels of intergroup contact — the most 'saturated' — are also the least likely to attend outgroup event a month after the program ends (Figures H3). Second, we find that Lebanese parents assigned to contact are also less likely to attend even culturally neutral events that were organized by Amel and had Syrians as invitees. We thus favor a more benign interpretation of the 'backlash' effect. Lebanese who are exposed to Syrians in their daily life in general, and within Amels' programming in particular, may not have as great a need to socialize with Syrians regardless of their attitudes. This result suggests that measuring the willingness to engage in future contact may instead reflect saturation rather than hostility.

In contrast to contact, empathy education avoids negative effects on behaviors, and in many cases, improves them. This finding echoes those found in a study of perspective-taking interventions in another Global South context, Colombia, where refugees and hosts

share a common cultural identity but where political entrepreneurs nonetheless stigmatize refugees (Bandiera et al. 2024). Results for parents follow the same general direction as those for youth participants albeit with much smaller effect sizes, suggesting that the children-to-parent channel for social norm diffusion is limited. We conclude that both interventions should be piloted extensively before being prescribed wholesale by policymakers — contact for its negative effects on behaviors and psychological integration among both refugees and hosts (harking to the link between diversity and social anomie (Putnam 2007)), and empathy for its difficulty either in getting the curriculum to resonate with participants, or because it may knock participants' confidence in their newly acquired skill set. This study adds to a growing evidence base highlighting the trade-offs associated with contact- and empathy-based treatments in contentious settings (Lowe 2024).

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# Supporting Information

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# A Overview of outcomes

| | Name | Description | Youth | | Parents | |
|---|---|---|---|---|---|---|
| | | | Leb. | Syr. | Leb. | Syr. |
| Behavioral outcomes | Outgroup event RSVP | Family RSVPing to cultural outgroup event | ✓ | ✓ | ✓ | ✓ |
| | Outgroup event RSVP | Family attendance at cultural outgroup event | ✓ | ✓ | ✓ | ✓ |
| | Donation | Donating books to ingroup, outgroup or both | ✓ | ✓ | ✓ | ✓ |
| | Full factor | First principal component of outgroup event attendance and RSVPing | ✓ | ✓ | ✓ | ✓ |
| | Arts & Crafts | ———"——— for Arts & Crafts event | ✓ | ✓ | ✓ | ✓ |
| | Syrian culture / | ———"——— for Syrian culture event | ✓ | ✓ | ✓ | ✓ |
| | Lebanese culture | ———"——— for Lebanese culture event | ✓ | ✓ | ✓ | ✓ |
| Attitudinal outcomes | Social proximity | Multi-item outcome index, see Tables 2 and D1 | ✓ | ✓ | ✓ | ✓ |
| | Conflict knowledge | ———-"———- | ✓ | ✓ | | |
| | Conflict skill | ———-"———- | ✓ | ✓ | | |
| | Emotional skill | ———-"———- | ✓ | ✓ | | |
| | Market impartiality | ———-"———- | | | ✓ | ✓ |
| | Arbitrary divide | ———-"———- | | | ✓ | ✓ |
| | Universalism | ———-"———- | | | ✓ | ✓ |
| | Full factor | First principal component of all survey items | ✓ | ✓ | ✓ | ✓ |
| | Connected to Lebanon | How (....) do you feel? (0-4) | | | | ✓ |
| | Feel like outsider | How often do you (...) in Lebanon? (0-3) | | | | ✓ |
| | Live in future | Do you want to (..) in Lebanon? (04) | | | | ✓ |
| | Mental health | First principal component of three items on symptoms of rumination, sadness, and feelings of helplessness (0-4) | | | ✓ | ✓ |
| | Allow Syr. to stay | How much do you think one should (...) (0-4) | ✓ | | | |

Table A1: Overview of all investigated outcomes

# B Overview of models

| Outcome | Population | Youth fig. ref. | Parents fig. ref. |
|---|---|---|---|
| Outgroup event RSVP | Full sample: | 1 | 4 |
| Outgroup event attendance | *Contact vs. empathy: | 3* | |
| Donation | By gender: | H1 | H8 |
| | By baseline openness: | H2 | |
| | By nationality: | 2 | H7 |
| | By baseline contact: | H3 | H9 |
| | *By HH income: | H4* | H10* |
| | *With and without sibling: | H5* | |
| | *"Pure" comparison | **??*** | |
| Social proximity | Full sample: | 1 | 4 |
| Conflict knowledge / conflict | Full sample: | 1; I2 | |
| Conflict skill /stepin | *Contact vs. empathy: | 3* | |
| Emotional skill /frnsad | By gender: | H1 | |
| | By baseline openness: | H2 | |
| | By nationality: | 2 | |
| | By baseline contact: | H3 | |
| | *By HH income: | H4* | |
| | *With and without sibling: | H5* | |
| | *"Pure" comparison | **??*** | |
| Market impartiality | Full sample: | | 4 |
| Arbitrary divide | By nationality: | | H7 |
| Universalism | By gender: | | H8 |
| | By baseline contact: | | H9 |
| | *By HH income: | | H10* |
| Full factors | *Full sample: | 1* | I3* |
| Connected to Lebanon | *Syrian parents: | | 7* |
| Feel like outsider | | | |
| Live in future | | | |
| Mental health | *By nationality: | I1* | I4* |
| Allow Syr. to stay | *Only Lebanese: | **??*** | |
| Arts & Crafts/Syrian/Lebanese event | *By nationality: | H6* | |
| common | *Full sample: | I2* | |
| frndly | | | |
| frifri | | | |
| closfri | | | |
| famfri | | | |



Table B1: Overview of all statistical comparisons (* = not pre-registered)

# C Empathy curriculum

Table C1: Health & Nutrition Curriculum

| **Topic** | **Content** |
|---|---|
| 1. My health, my responsibility | Understanding the components of physical health, self-awareness and goal setting, critical thinking. |
| 2. Growing the Right Way | Understanding the importance of proper nutrition, regular sleep, and rest. |
| 3. Spending My Days Actively | Understanding the importance of exercise and physical effort, decision-making. |
| 4. Avoiding Unhealthy Habits | Avoiding smoking, alcohol, and drugs, understanding their risks and how to avoid them. |
| 5. Health in the Digital Age | Awareness of health challenges that may result from improper use of technology (posture, eyesight, obesity, etc.). |
| 6. Puberty | Understanding physical, emotional, and social changes that come with adolescence, enhancing self-control. |
| 7. Taking care of my body as a teen | Awareness of how to maintain personal hygiene and sexual health. |
| 8. Rejecting violence and harm | Understanding the causes, components, and effects of violence. |

Summary of weekly health and nutrition education sessions.

# D Indexing results

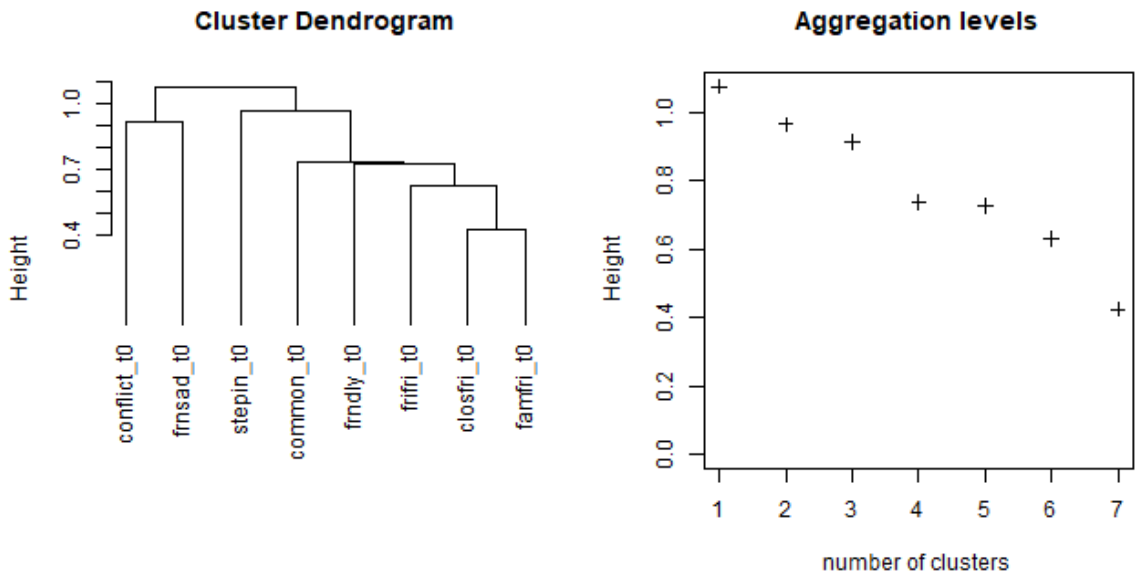


Figure D1: Cluster dendogram and scree plot for youth

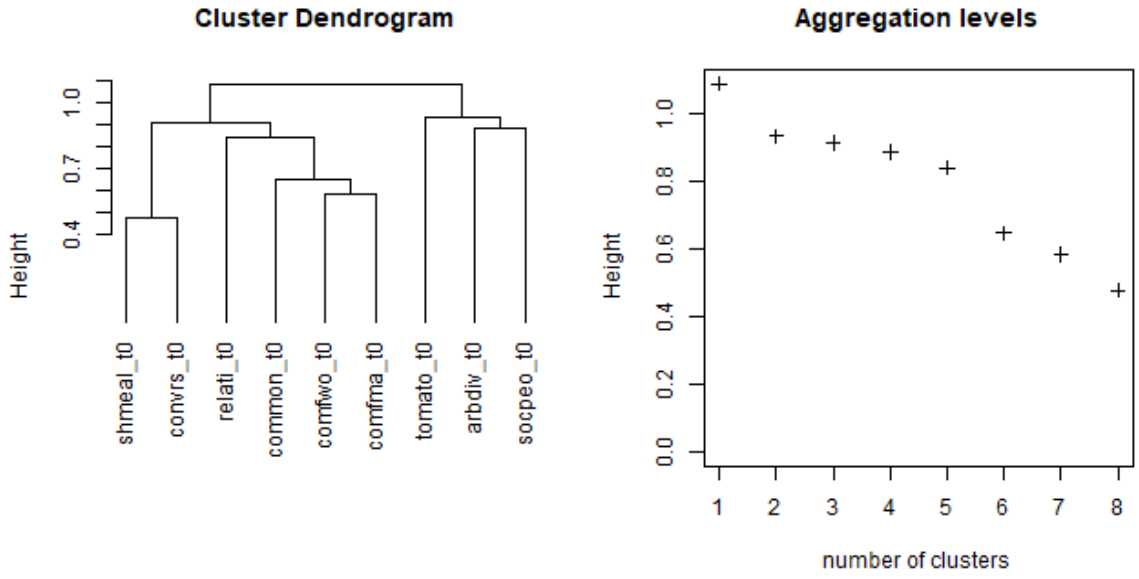


Figure D2: Cluster dendogram and scree plot for parents

| Factor (Cronbach's $\alpha$) | Variable | Item text |
|---|---|---|
| Social proximity (.69) | *shmeal* | In the last 12 months, how often did you have a meal with Lebanese/Syrians who are not part of your family? |
| | *convrs* | Think about the Lebanese/Syrians in your address book or your phone contacts. With how many of them did you have a conversation - either by phone, messenger chat, or text exchange - in the last 4 weeks? |
| | *relati* | How do you perceive relations between Lebanese and Syrian refugees? |
| | *common* | I share a lot in common with Lebanese/Syrians. |
| | *comfwo* | I would feel comfortable working with a Lebanese/Syrian. |
| | *comfma* | I would feel comfortable if my son or daughter married a Lebanese/Syrian one day. |
| Market impartiality (-) | *tomato* | Suppose you are buying a pack of tomatoes from the market. There are two stores right next to each other, one run by [an outgroup member] and one by an [ingroup member]. The tomatoes seem to be of the same quality, but the tomatoes at the [ingroup] store are more expensive. At what point would you buy from the [outgroup] store instead? (Always [ingroup]; 50% cheaper; 25% cheaper; always cheapest) |
| Arbitrary divide (-) | *arbdiv* | It is arbitrary to divide Lebanon into ethnic and religious communities. |
| Universalism (-) | *socpeo* | Lebanon would be a better society if we treated each other as people first, instead of ethnic and religious communities. |

Table D1: Outcome indices for parents.

# E Attendance and attrition

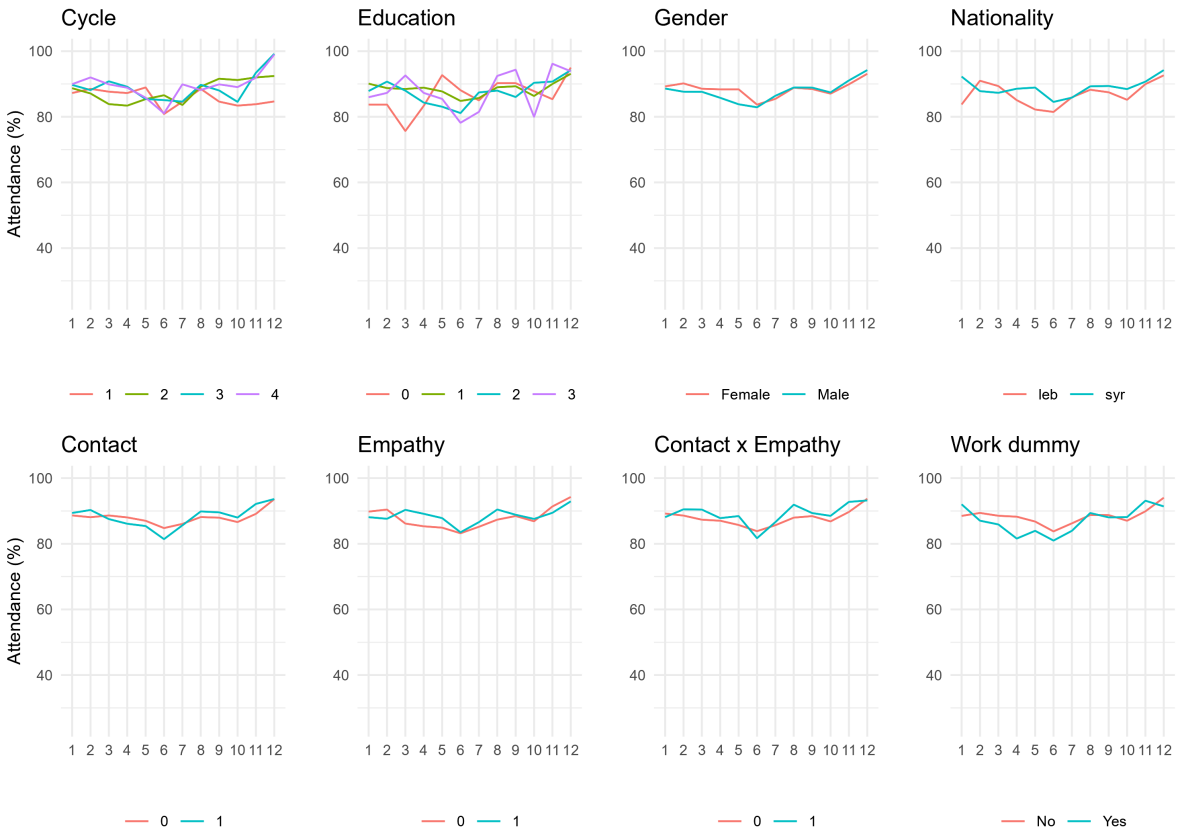


Figure E1: Attendance of the program for different subgroups

| Nationality | Baseline | Endline | Attended over 50 % |
|---|---|---|---|
| Lebanese | 411 | 394 | 383 |
| Syrian | 664 | 647 | 615 |
| Sum | 1075 | 1041 | 998 |

Table E1: Attrition for youth

| Nationality | Baseline | Endline |
|---|---|---|
| Lebanese | 408 | 400 |
| Syrian | 640 | 635 |
| Sum | 1048 | 1035 |

Table E2: Attrition for parents

# F Balance

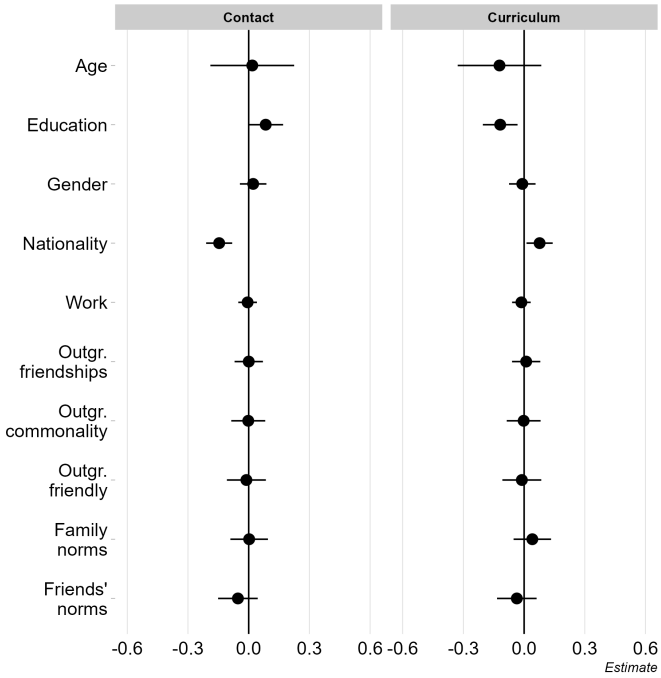


Figure F1: Balance plot for youth, with 95% confidence intervals

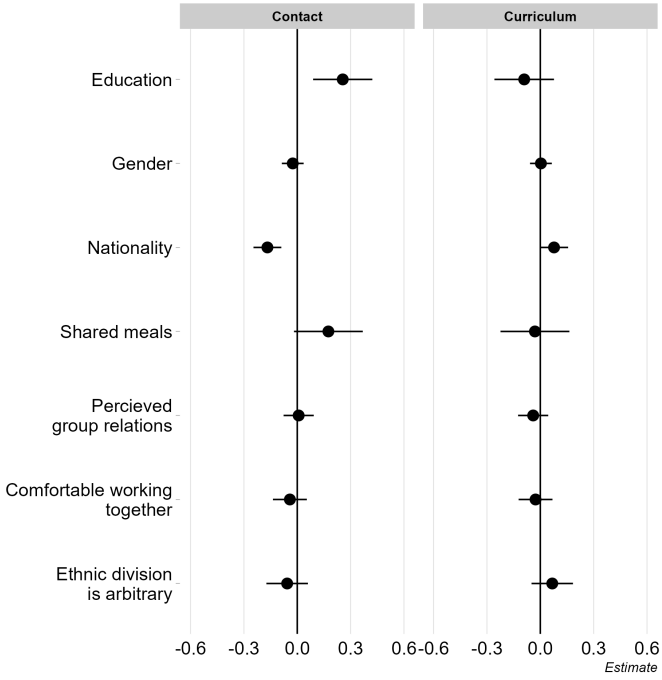


Figure F2: Balance plot for parents, with 95% confidence intervals

# G Descriptives

## G.1 Descriptives, youth

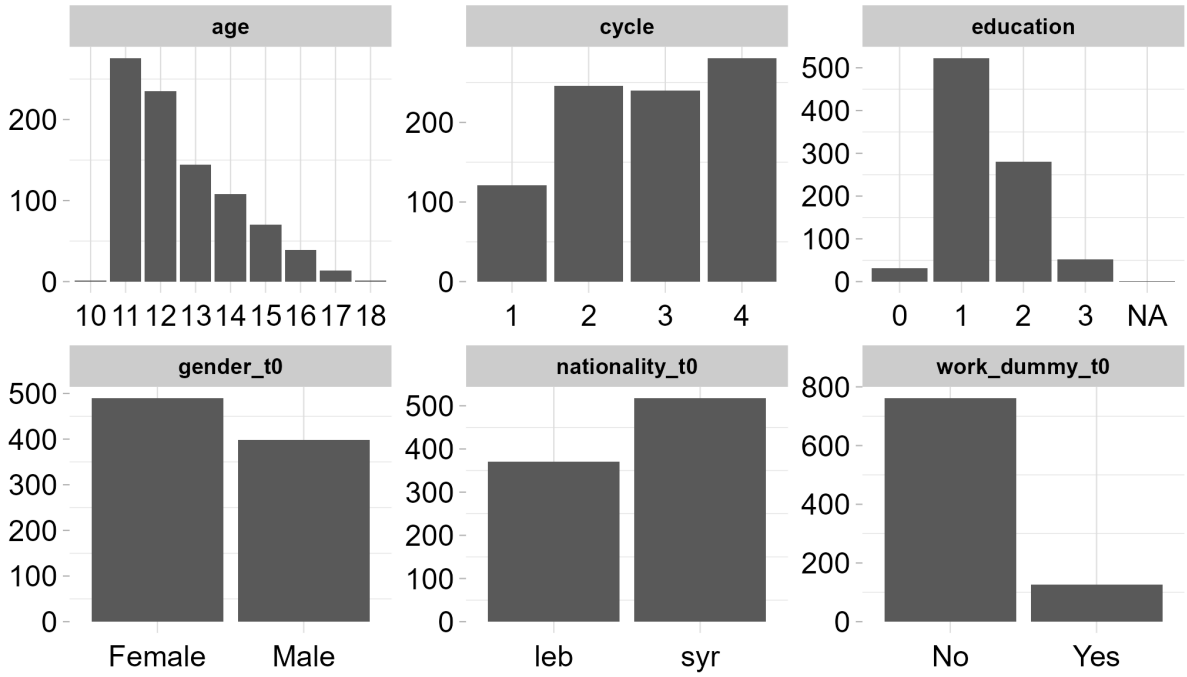


Figure G1: Barplot of youth covariates

Table G1: Means and standard deviations (in parantheses) for all treatment conditions and outcomes

| Treatment condition | Outcome | Baseline | Endline |
|---|---|---|---|
| All | Conflict skill | 1.65 (0.63) | 1.79 (0.51) |
| All | Conflict knowledge | 0.38 (0.49) | 0.46 (0.5) |
| All | Donation | NA | 0.92 (0.32) |
| All | Emotional skill | 0.81 (0.39) | 0.9 (0.31) |
| All | Outgr. event attendance | NA | 0.77 (0.42) |
| All | Outgr. event RSVP | NA | 0.82 (0.39) |
| All | Social proximity | 1.69 (0.51) | 1.95 (0.45) |
| Contact | Conflict skill | 1.6 (0.65) | 1.8 (0.51) |
| Contact | Conflict knowledge | 0.39 (0.49) | 0.53 (0.5) |
| Contact | Donation | NA | 0.91 (0.32) |
| Contact | Emotional skill | 0.8 (0.4) | 0.88 (0.33) |
| Contact | Outgr. event attendance | NA | 0.72 (0.45) |
| Contact | Outgr. event RSVP | NA | 0.79 (0.41) |
| Contact | Social proximity | 1.72 (0.49) | 1.95 (0.43) |
| Contact x Curric | Conflict skill | 1.63 (0.63) | 1.77 (0.5) |
| Contact x Curric | Conflict knowledge | 0.4 (0.49) | 0.45 (0.5) |
| Contact x Curric | Donation | NA | 0.92 (0.3) |
| Contact x Curric | Emotional skill | 0.75 (0.43) | 0.9 (0.3) |
| Contact x Curric | Outgr. event attendance | NA | 0.75 (0.43) |
| Contact x Curric | Outgr. event RSVP | NA | 0.79 (0.41) |
| Contact x Curric | Social proximity | 1.64 (0.55) | 1.97 (0.48) |
| Control | Conflict skill | 1.7 (0.58) | 1.82 (0.49) |
| Control | Conflict knowledge | 0.4 (0.49) | 0.48 (0.5) |
| Control | Donation | NA | 0.9 (0.37) |
| Control | Emotional skill | 0.87 (0.34) | 0.91 (0.28) |
| Control | Outgr. event attendance | NA | 0.76 (0.43) |
| Control | Outgr. event RSVP | NA | 0.81 (0.39) |
| Control | Social proximity | 1.67 (0.49) | 1.9 (0.43) |
| Curric | Conflict skill | 1.65 (0.67) | 1.76 (0.55) |
| Curric | Conflict knowledge | 0.33 (0.47) | 0.39 (0.49) |
| Curric | Donation | NA | 0.94 (0.28) |
| Curric | Emotional skill | 0.82 (0.38) | 0.89 (0.32) |
| Curric | Outgr. event attendance | NA | 0.87 (0.34) |
| Curric | Outgr. event RSVP | NA | 0.89 (0.32) |
| Curric | Social proximity | 1.73 (0.52) | 2 (0.45) |

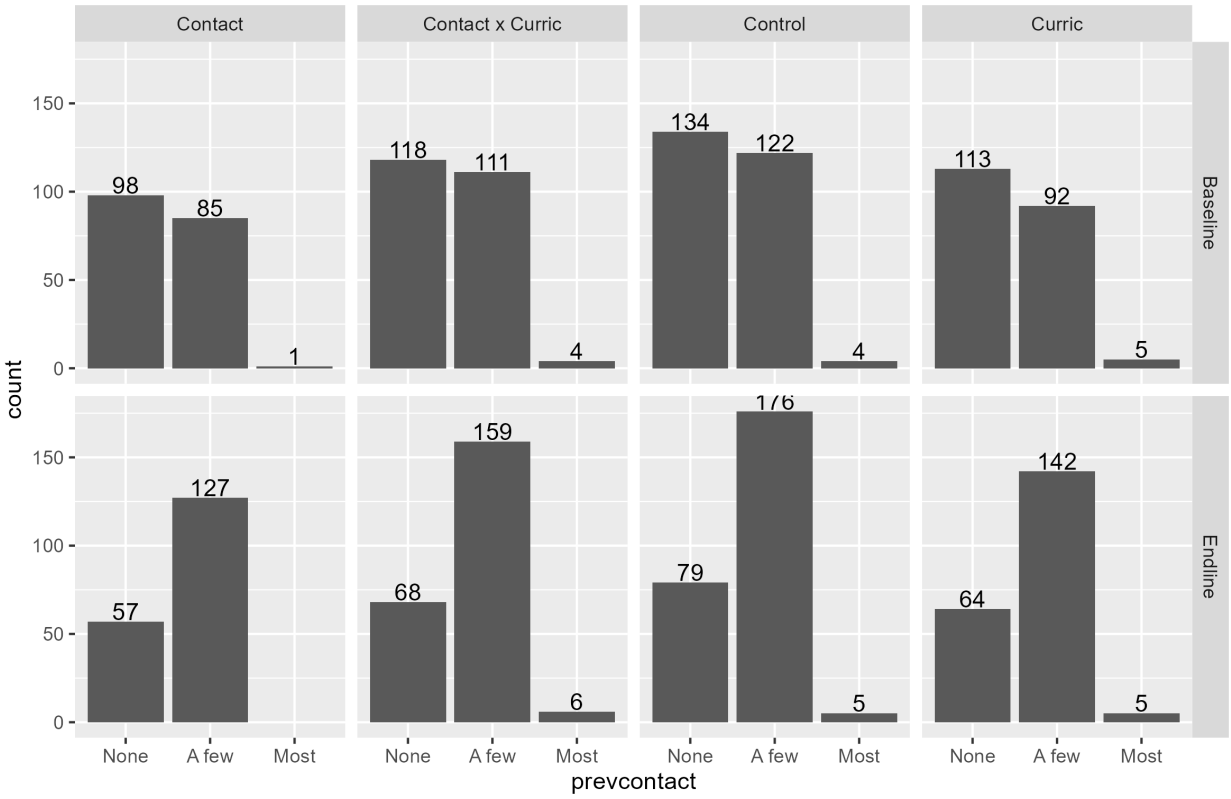


Figure G2: Number of outgroup friends at baseline among youths

## G.2 Descriptives, parents

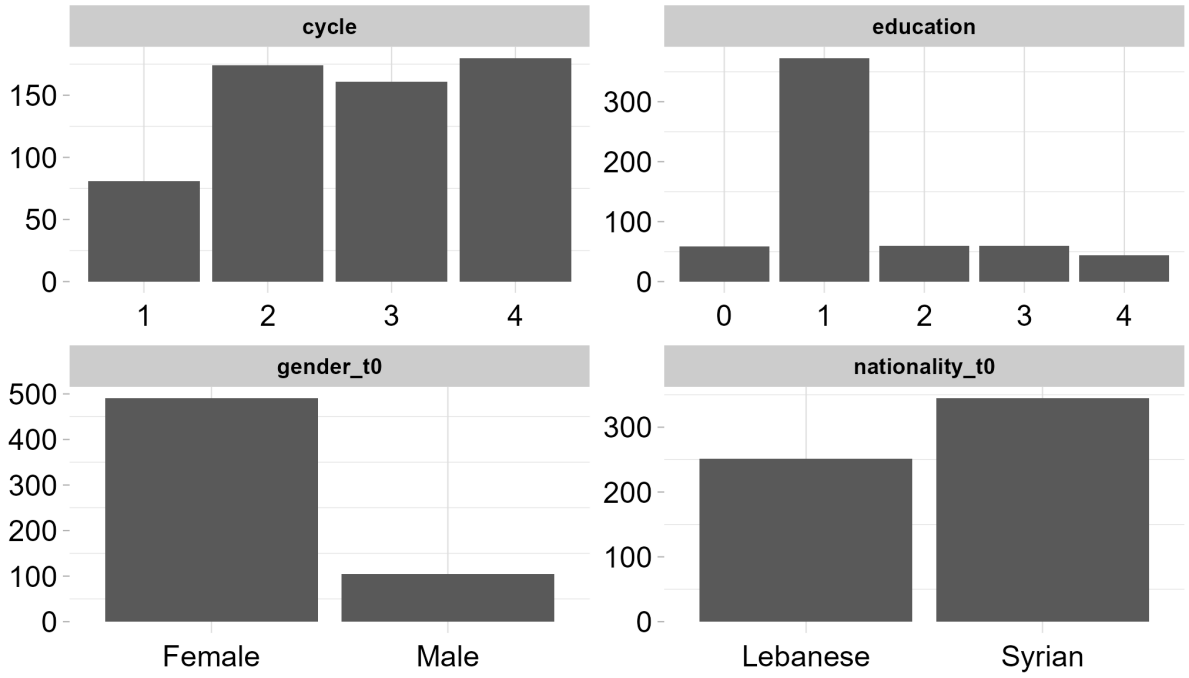


Figure G3: Barplot of parent covariates

# H Heterogeneous effects

## H.1 Heterogeneous effects, youth

### Heterogeneous effects by gender:

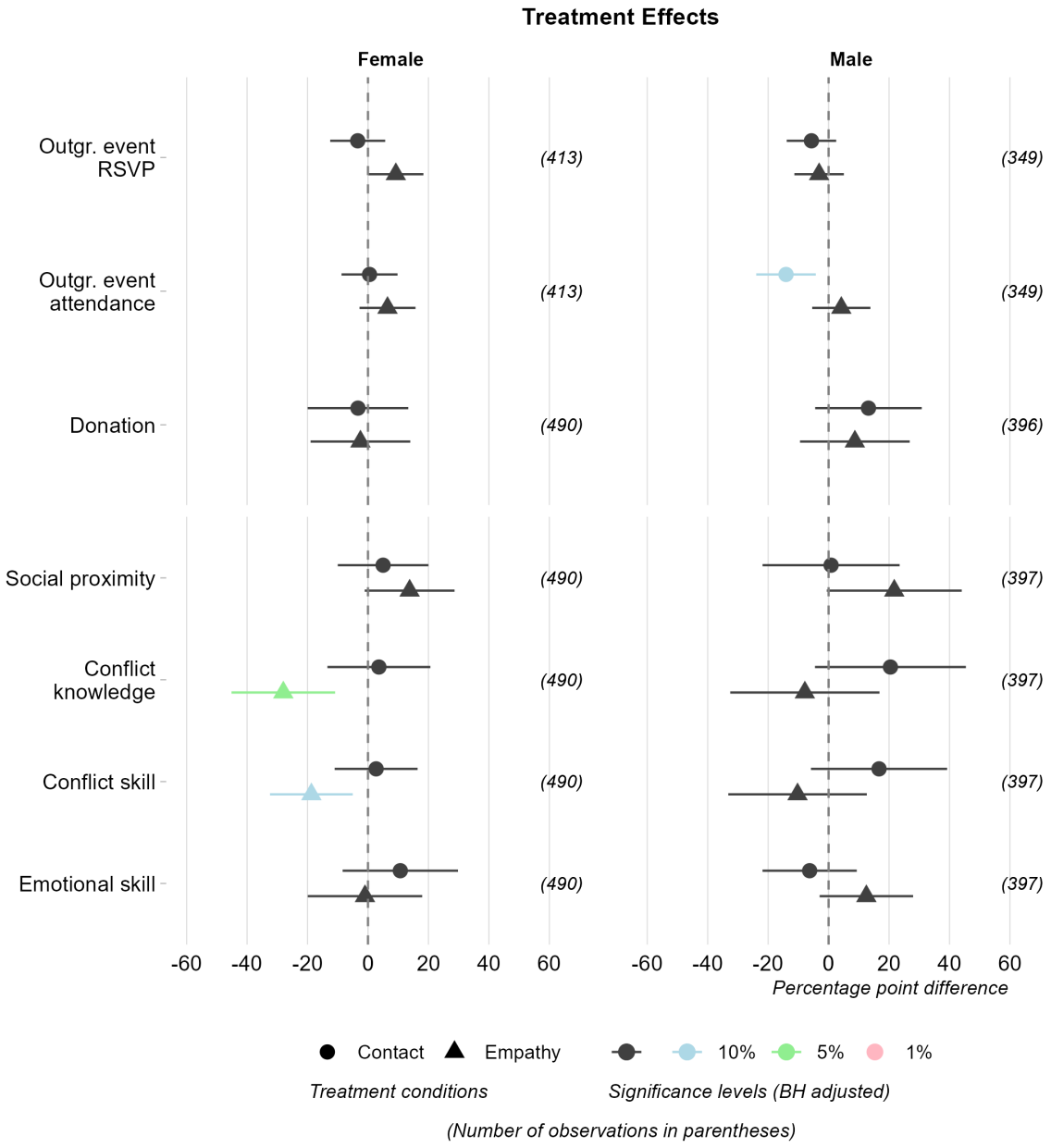


Figure H1: Youth results by gender

**Heterogeneous effects by openness to new experiences:**

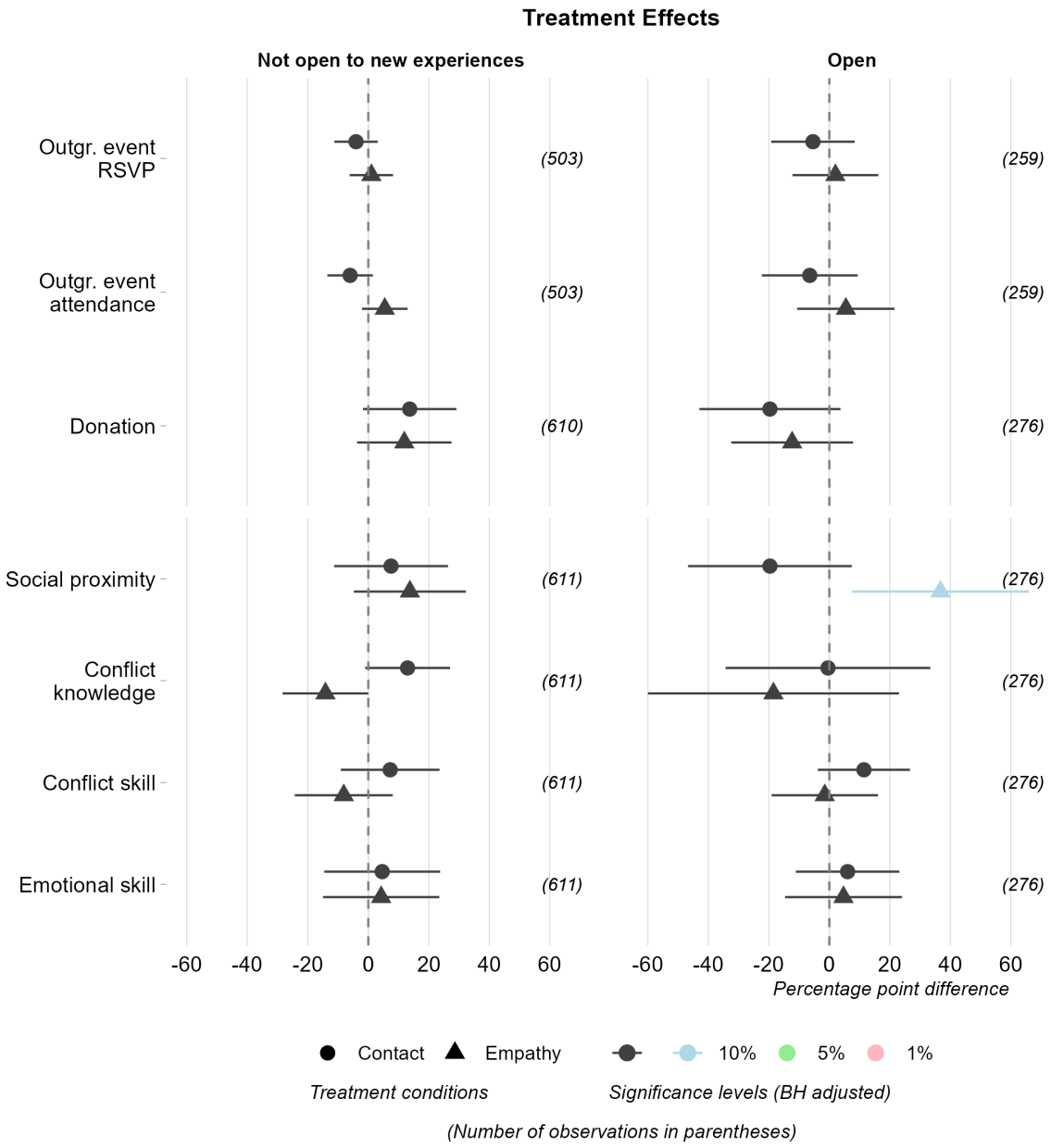


Figure H2: Youth results by openness to new experiences

**Heterogeneous effects by baseline contact levels:**

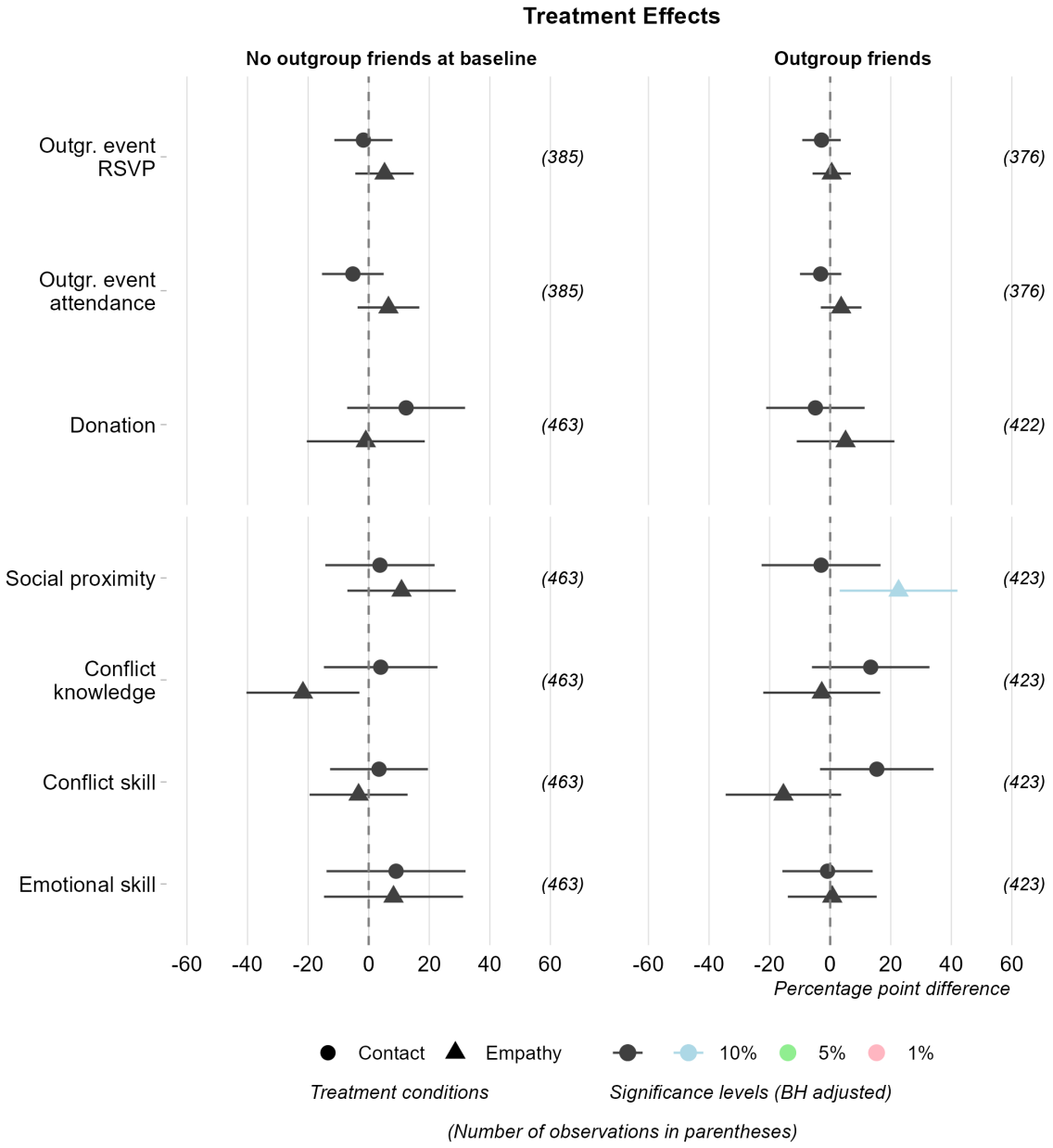


Figure H3: Youth results by baseline contact

**Heterogeneous effects by HH income:**

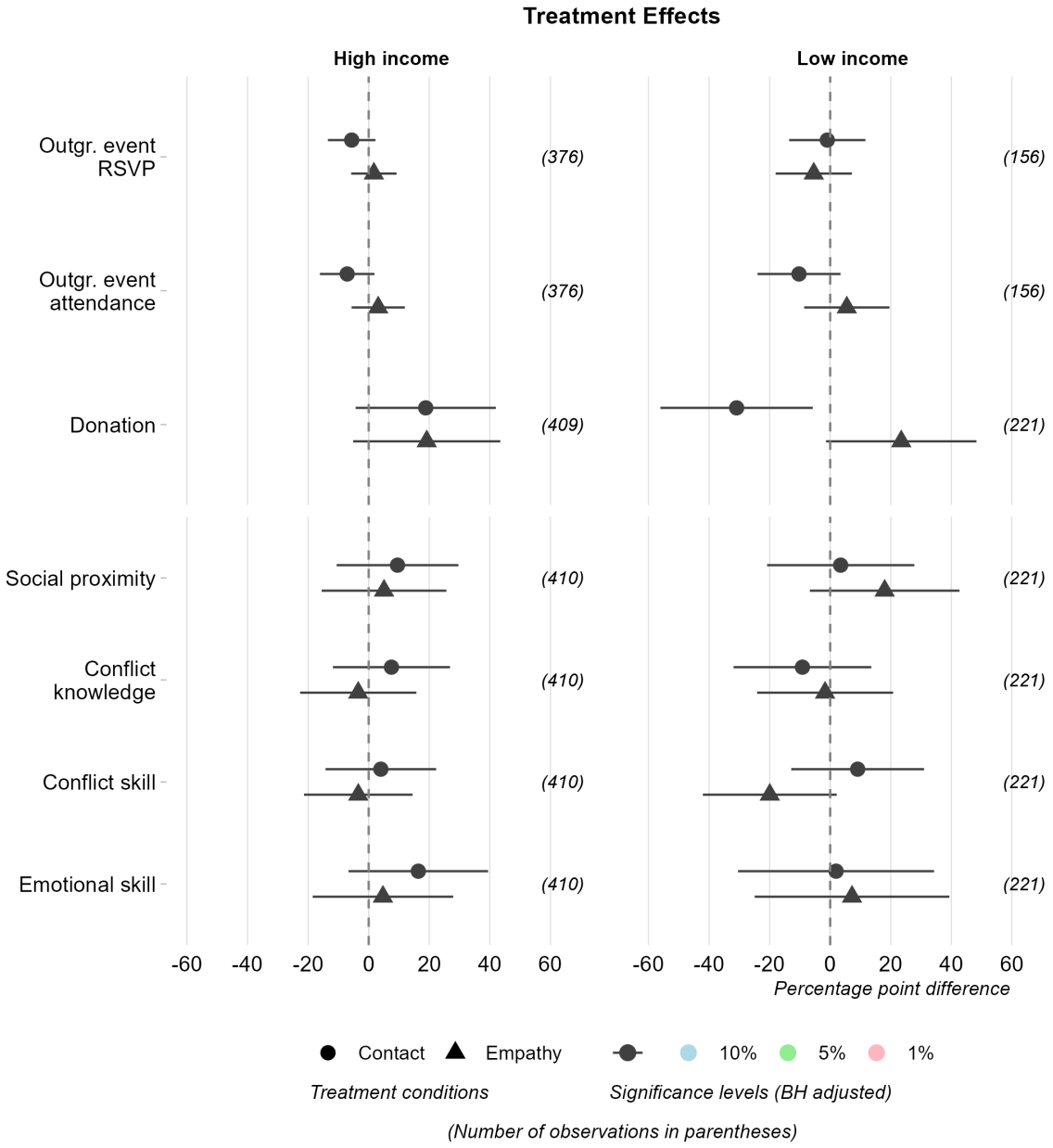


Figure H4: Youth results by HH income

**Heterogeneous effects by sibling status:**

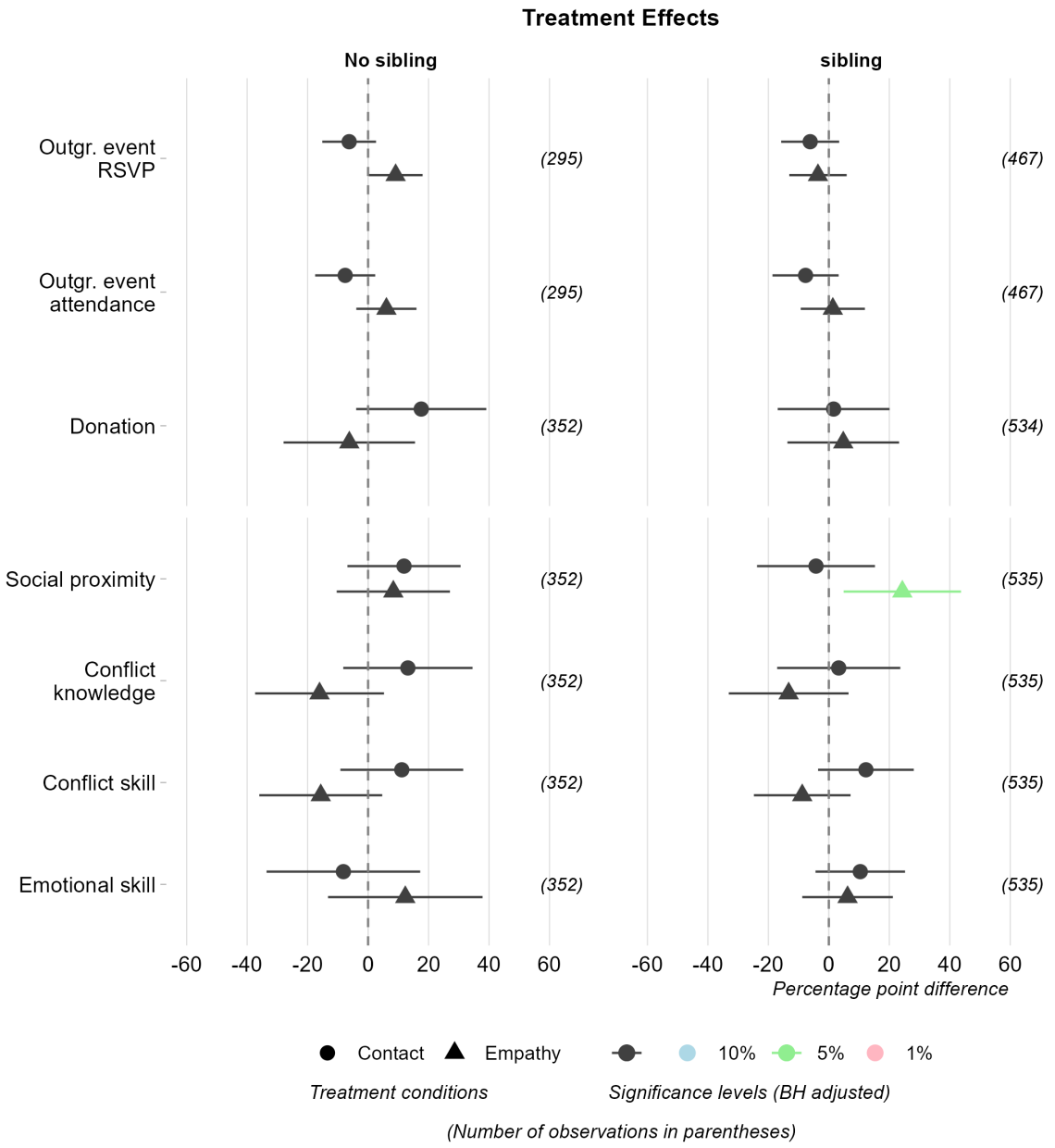


Figure H5: Effect of contact by sibling status

**Heterogeneous effects by nationality and event type:**

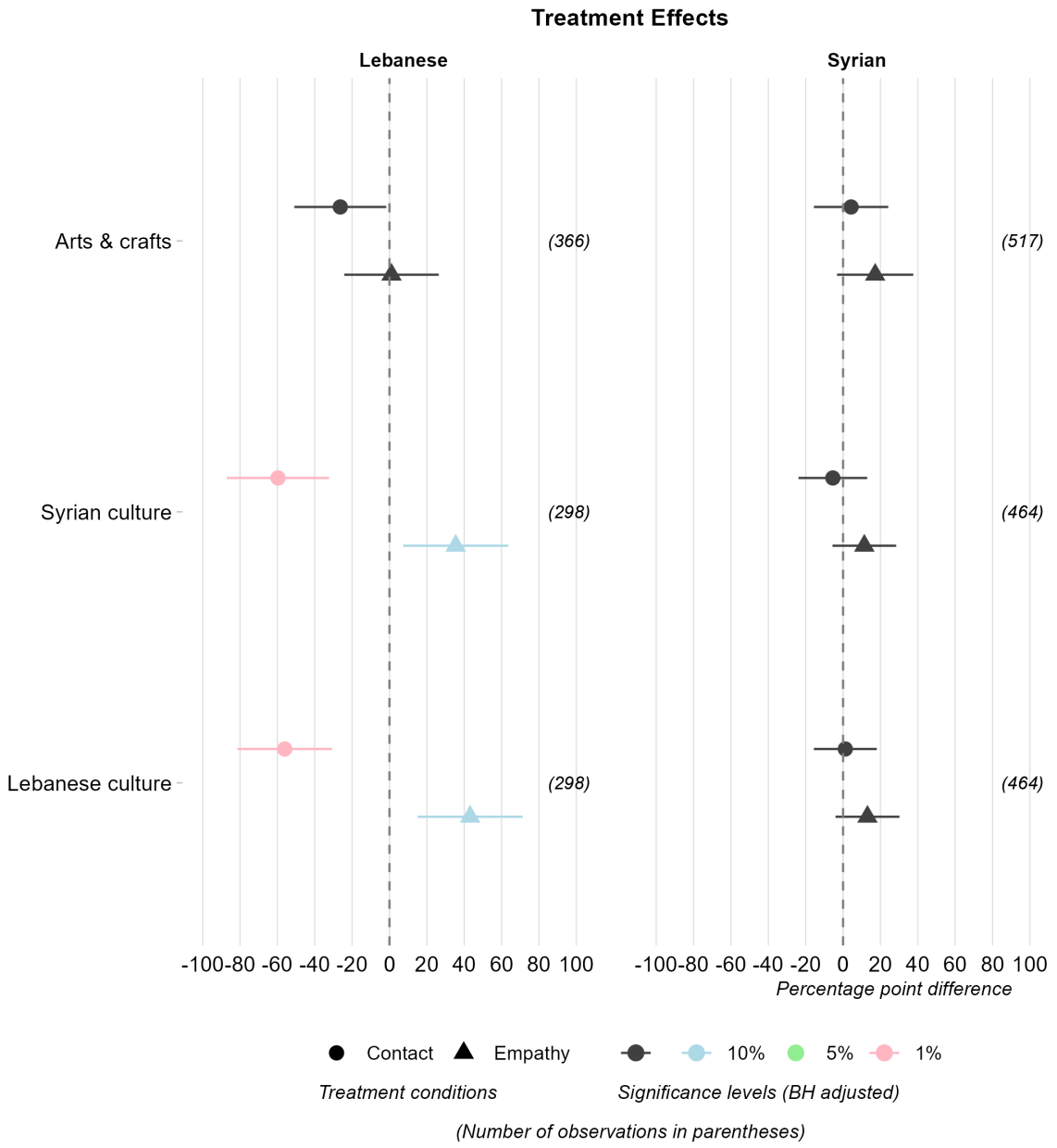


Figure H6: Effect on first principal component of event RSVPing and attending, by nationality and event type for youths

## H.2 Heterogeneous effects, parents

### Heterogeneous effects by nationality:

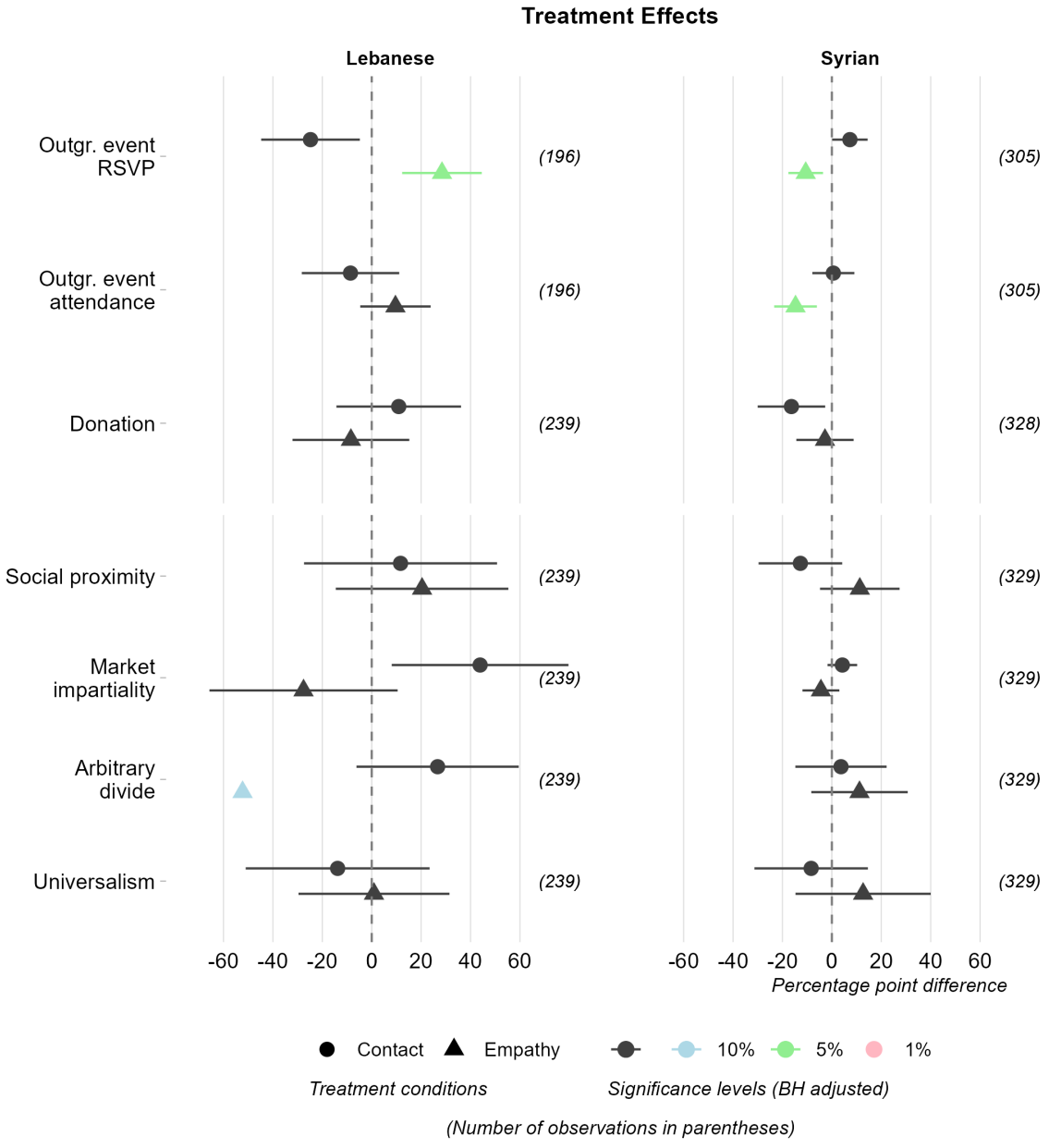


Figure H7: Spillover effect on parents, by nationality

**Heterogeneous effects by gender:**

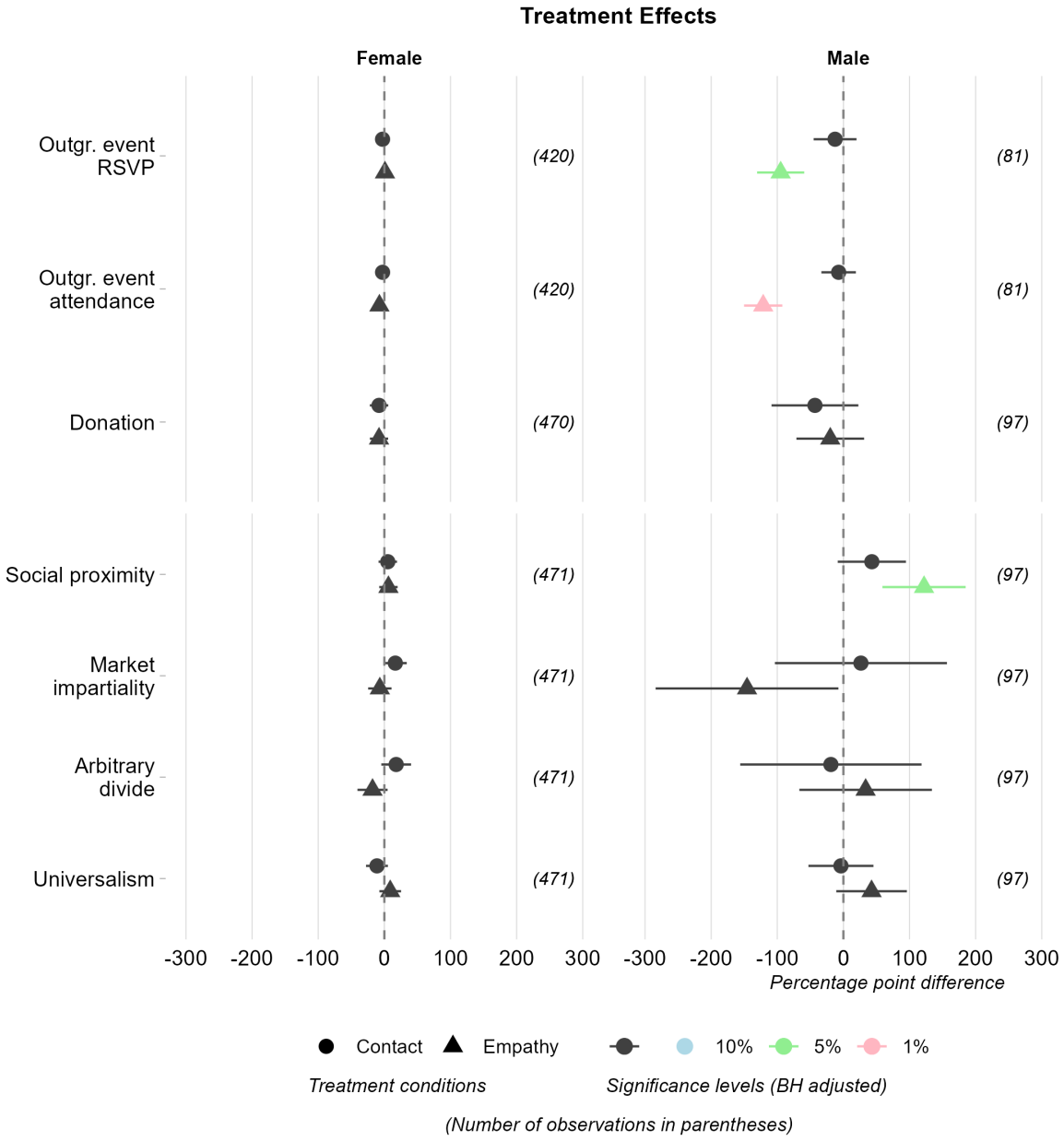


Figure H8: Spillover effect on parents, by gender

**Heterogeneous effects by baseline contact levels:**

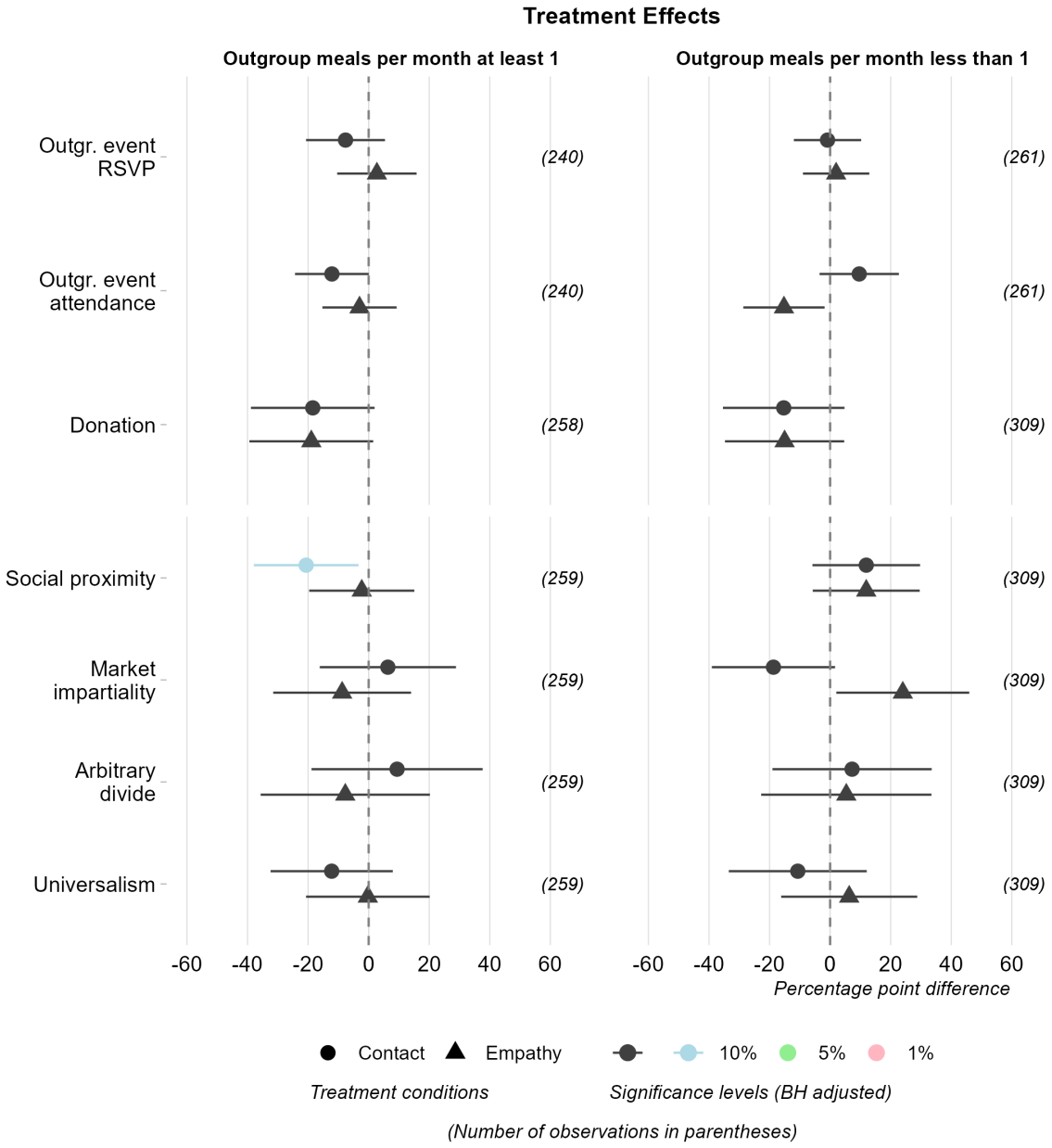


Figure H9: Spillover effect on parents, by baseline contact

**Heterogeneous effects by HH income:**

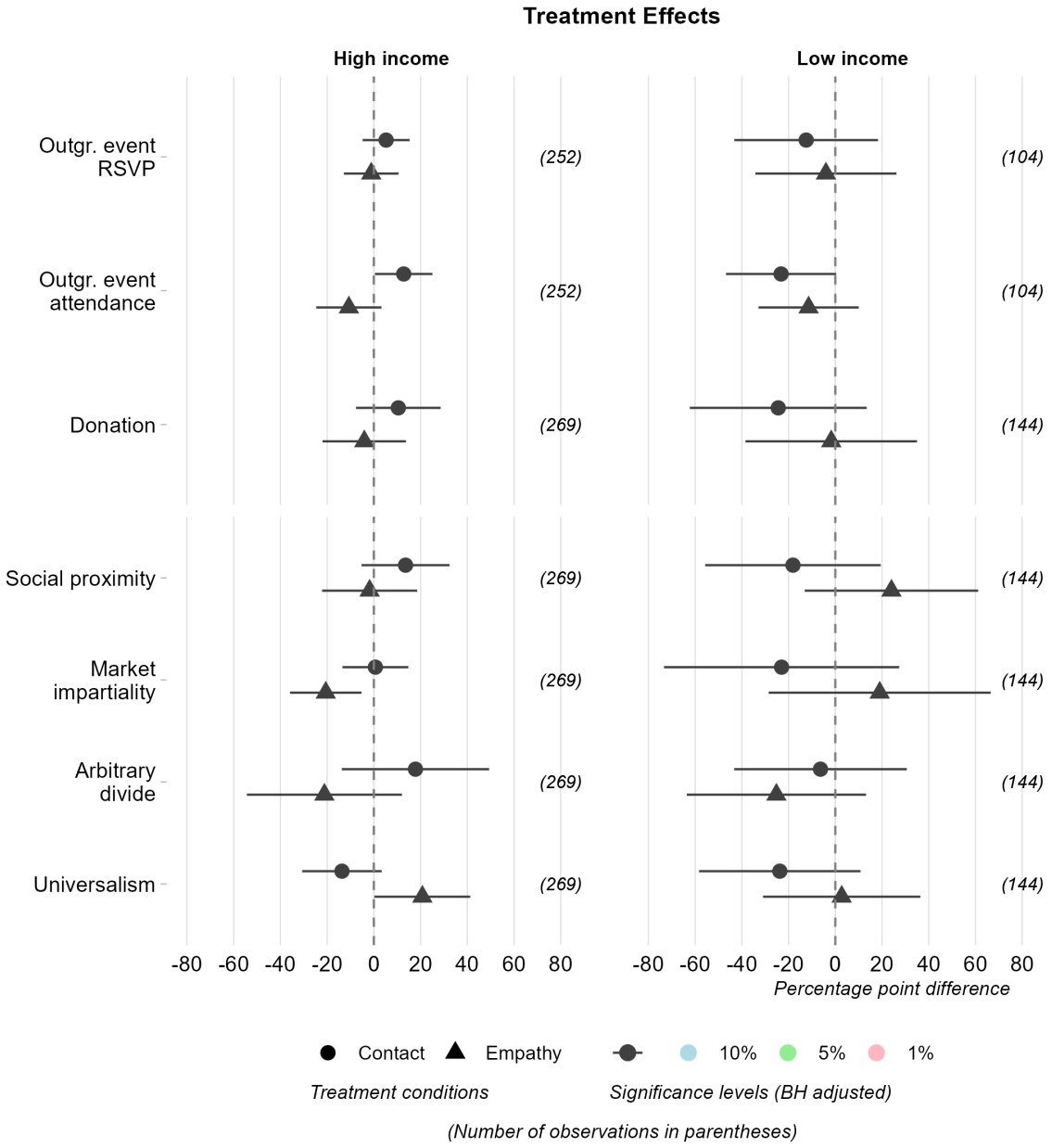


Figure H10: Spillover effect on parents, by HH income

# I Other additional results

## I.1 Mental health results, youth

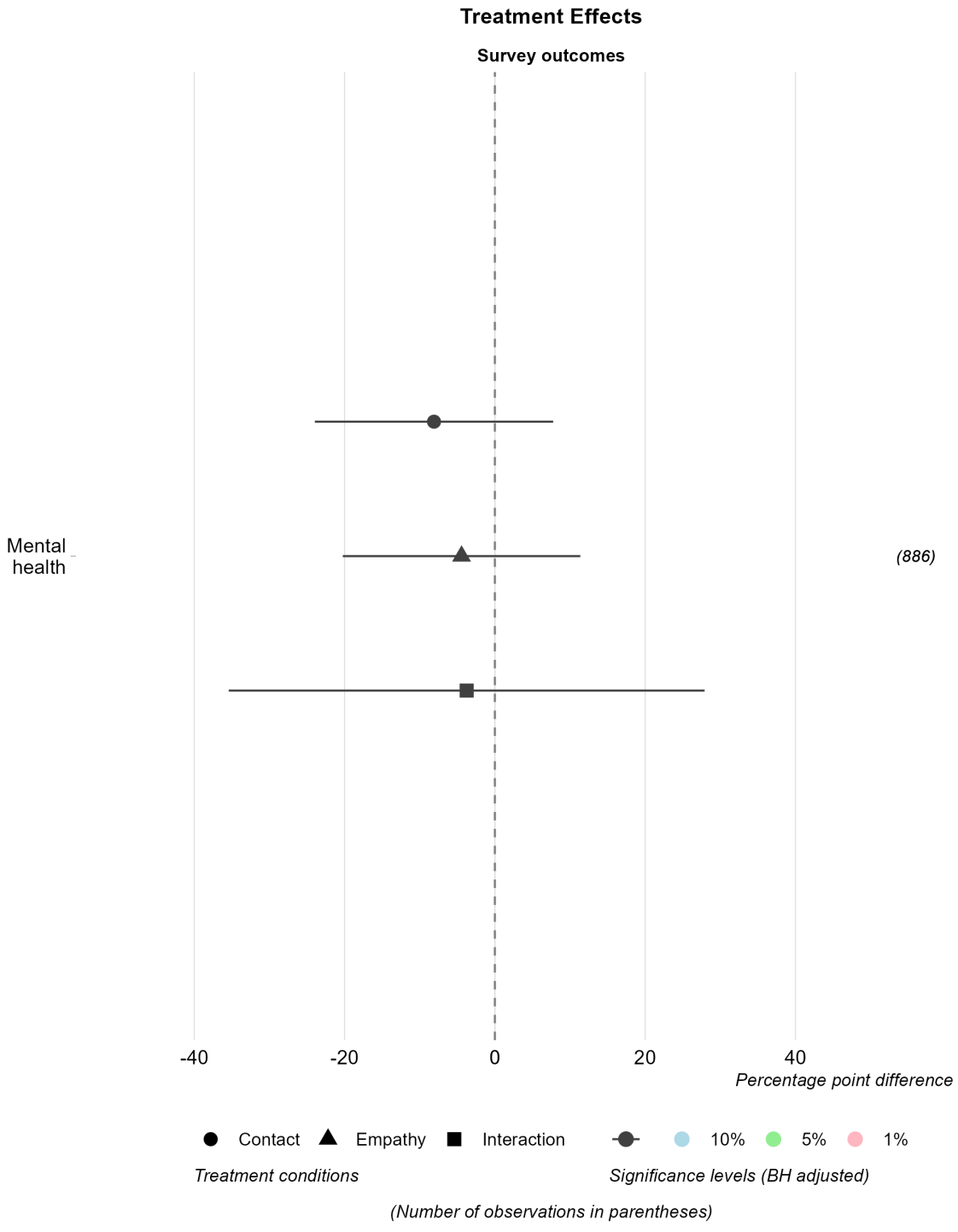


Figure I1: Effect on mental health

## I.2 Results by survey items, youth

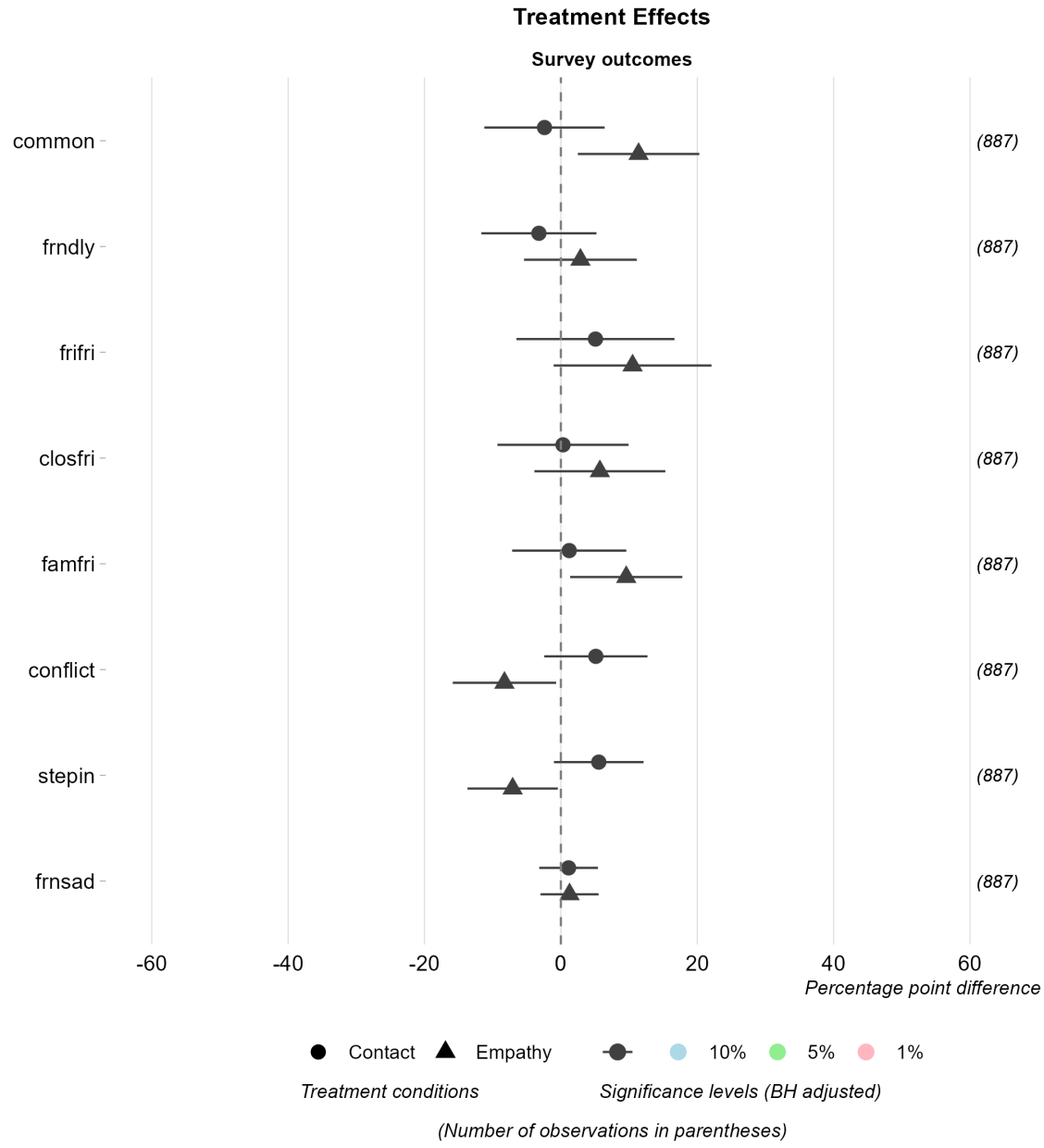


Figure I2: Youth results by survey item

## I.3 Full factor results, parents

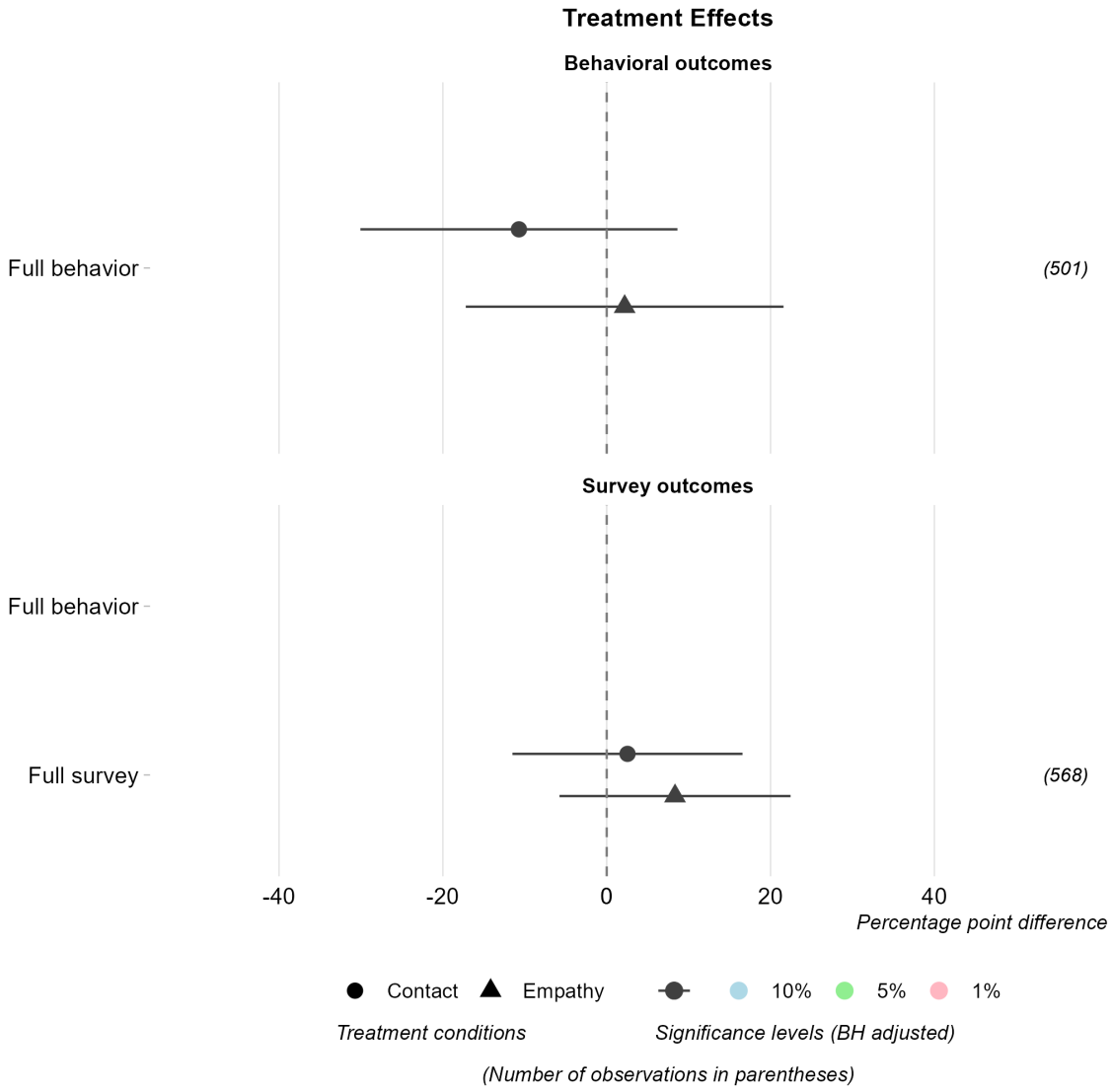


Figure I3: Spillover effect on parents, full factors

**Mental health results, parents**

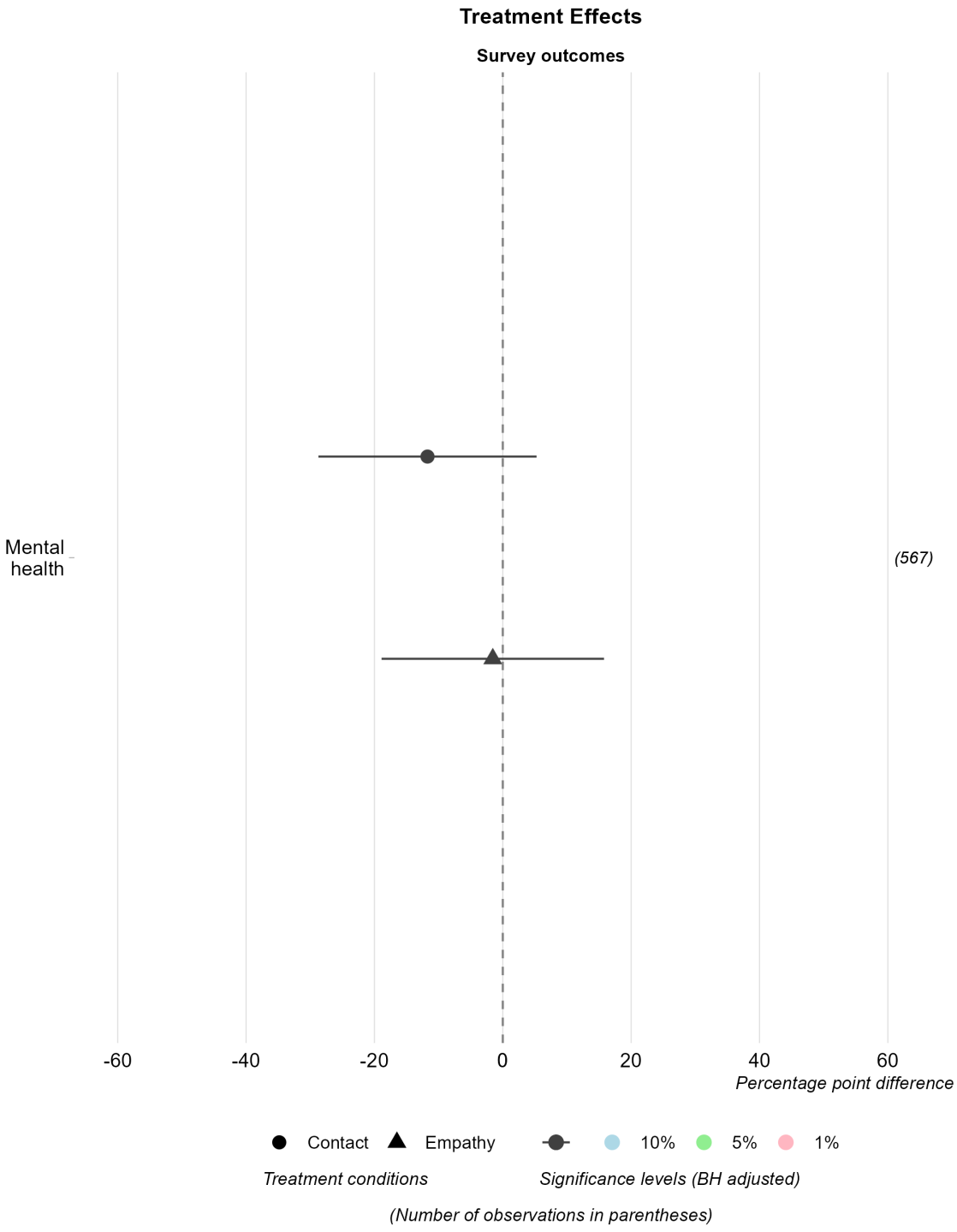


Figure I4: Spillover effect on mental health for parents

# J Tabular results for the youth main specifications

| | Social proximity | Conflict knowledge | Conflict skill | Emotional skill | Ou |
|---|---|---|---|---|---|
| Contact treatment | 0.01 | 0.10 | 0.11 | 0.04 | |
| | (0.09) | (0.09) | (0.08) | (0.09) | |
| Curriculum treatment | 0.19** | −0.17* | −0.14* | 0.04 | |
| | (0.09) | (0.09) | (0.08) | (0.09) | |
| Contact x Curriculum | −0.06 | 0.04 | 0.04 | 0.07 | |
| | (0.18) | (0.18) | (0.16) | (0.17) | |
| Baseline outcome measure | 0.46*** | 0.36*** | 0.54*** | 0.45*** | |
| | (0.04) | (0.03) | (0.06) | (0.05) | |
| Age | −0.02 | 0.03 | −0.02 | 0.01 | |
| | (0.02) | (0.03) | (0.02) | (0.02) | |
| Male | 0.03 | −0.05 | −0.03 | 0.02 | |
| | (0.05) | (0.07) | (0.07) | (0.07) | |
| Lebanese | −0.22** | −0.10 | −0.19** | −0.04 | |
| | (0.10) | (0.10) | (0.09) | (0.13) | |
| Work dummy | 0.00 | 0.07 | −0.00 | 0.08 | |
| | (0.11) | (0.10) | (0.07) | (0.10) | |
| Cycle 1 | 0.56*** | 0.31** | −0.02 | −0.08 | |
| | (0.16) | (0.13) | (0.11) | (0.16) | |
| Cycle 2 | 0.01 | 0.41*** | −0.05 | −0.07 | |
| | (0.11) | (0.14) | (0.10) | (0.10) | |
| Cycle 3 | 0.16 | 0.14 | −0.06 | −0.27* | |
| | (0.10) | (0.11) | (0.10) | (0.14) | |
| (Intercept) | −0.00 | 0.01 | −0.04 | −0.01 | |
| | (0.05) | (0.05) | (0.04) | (0.04) | |
| $R^2$ | 0.37 | 0.22 | 0.39 | 0.26 | |
| Adj. $R^2$ | 0.33 | 0.16 | 0.34 | 0.20 | |
| Num. obs. | 887 | 887 | 887 | 887 | |
| RMSE | 0.83 | 0.92 | 0.83 | 0.91 | |
| N Clusters | 91 | 91 | 91 | 91 | |

$^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$

Table J1: Regression results for the main specification, youth

| | Full behavior | Full survey |
|---|---|---|
| Contact treatment | $-0.21^{*}$ | $-0.01$ |
| | (0.10) | (0.09) |
| Curriculum treatment | 0.16 | $-0.18^{*}$ |
| | (0.10) | (0.09) |
| Contact x Curriculum | $-0.20$ | 0.07 |
| | (0.21) | (0.19) |
| Baseline outcome measure | | $-0.46^{***}$ |
| | | (0.04) |
| Age | $-0.08^{*}$ | 0.03 |
| | (0.04) | (0.02) |
| Male | 0.00 | $-0.03$ |
| | (0.09) | (0.05) |
| Lebanese | $-0.20$ | $0.22^{**}$ |
| | (0.14) | (0.10) |
| Work dummy | 0.15 | 0.00 |
| | (0.13) | (0.11) |
| Cycle 1 | | $-0.55^{***}$ |
| | | (0.16) |
| Cycle 2 | $-0.24^{*}$ | 0.00 |
| | (0.14) | (0.11) |
| Cycle 3 | $0.23^{**}$ | $-0.16$ |
| | (0.11) | (0.10) |
| (Intercept) | $-0.07$ | 0.00 |
| | (0.05) | (0.05) |
| $R^2$ | 0.15 | 0.38 |
| Adj. $R^2$ | 0.08 | 0.33 |
| Num. obs. | 762 | 887 |
| RMSE | 1.06 | 0.83 |
| N Clusters | 72 | 91 |

$^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$

Table J2: Regression results for full factors, youth

# K Example empathy curriculum session script

**Age Group: 13 - 14 years**

**Life Skills: Communication and Relationship Building**

**Session Six: Building Friendships Without Discrimination and Bullying**

**Objectives:**

- Basics of accepting and understanding others.
- Respecting different opinions.

**Key Messages:**

- Successful relationships are based on empathy, honesty, values, behaviors, and effective communication.
- Friends play a crucial role in an individual's growth, health, and well-being. A diverse and rich network of friends is important.
- Time should be allocated to meet friends and engage in enjoyable activities, even during crises. This is part of normal development.
- Acceptance and respect for differences and similarities between people are essential.
- It is important to understand what bullying is and how to prevent and address it.

**Preparation:**

- Copies of treasure-shaped papers for each participant.
- A brown paper bag and a potato for each participant and the facilitator.

**Duration:**

30 minutes

**Facilitator Notes:**

- Relationships require many skills, including listening, communication, self-awareness, self-assertion, respect, and acceptance of differences.
- Time should be dedicated to meeting new friends and sharing feelings, games, secrets, and tastes.
- People from different cultures and backgrounds often share similar values and beliefs.
- Increase awareness of cultural perspectives and stereotypes that may be unintentionally acquired.

**Session Flow:**

- The facilitator welcomes the participants and reminds them that the circle is a safe space, emphasizing the importance of maintaining confidentiality.
- The facilitator encourages active participation while respecting everyone's opinions.
- The facilitator provides an overview of the session and explains its objectives.

**Activities:**

*Activity: "I Am a Good Friend and Choose Good Friends" (10 minutes)

- The facilitator distributes the treasure-shaped papers to the participants.
- Each participant is asked to write one quality they would like to see in a friend.
- Each participant reads their quality aloud and sticks their paper onto a large treasure model.

- After everyone has read their qualities, the facilitator explains that the qualities they wrote and wish to see in their friends are the same qualities they should exhibit with their friends (e.g., a good friend helps when needed, does not say hurtful things, and does not listen to others speaking badly about someone).

**Activity: "The Potato" (15 minutes)**

- The facilitator holds up a bag of potatoes and says, "I have here some potatoes. I never thought much about potatoes. I always considered them a given. To me, potatoes are all pretty similar. Sometimes I wonder if potatoes are a lot like people."
- The facilitator passes the bag around, and each participant takes one potato.
- The facilitator asks each participant to examine their potato, noting its bumps, scars, and imperfections. They should try to form a friendship with the potato for about a minute in silence. Get to know the potato well enough to introduce "your friend" to the group.
- After two minutes, the facilitator starts introducing their potato to the group, sharing a story about how their potato got its bumps.

**Processing and Generalization (5 minutes)**

- If we group all individuals into the same category and assume they all have the same traits, why are stereotypes dangerous?

**Closing:**

- The facilitator summarizes the session content and reiterates the key messages.