

Outgroup Avoidance *

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Abstract

Encouraging engagement with outgroup perspectives is a popular strategy to improve intergroup relations. But in deeply divided societies, individuals often actively avoid outgroup members. In a Facebook field experiment, we embedded Palestinian posts in Jewish Israelis' Facebook timelines for a period of 14 days. We find no effect on attitudes toward the outgroup and a modest decrease in subsequent consumption of outgroup content, a pattern we attribute to participants' avoidance of constructive engagement. To better understand this avoidance, we conducted a set of survey-embedded behavioral tasks. Results suggest that outgroup avoidance online is widespread, associated with outgroup prejudice, explained by feelings of discomfort, anger, mistrust in outgroups, and pessimism, and challenging to overcome. Our findings indicate that avoidance is a barrier to constructive intergroup engagement in naturalistic settings, rendering many interventions that may be effective in controlled environments difficult to implement or scale in practice.

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Decades of social science research points to engagement with outgroup members and their viewpoints as a means to improve intergroup relations (Pettigrew and Tropp, 2006; Broockman and Kalla, 2016; Paluck et al., 2020; Weiss, Ran and Halperin, 2023). In recent years, scholars have designed various interventions to promote ideal forms of outgroup exposure. From crafting soap operas that provide positive representations of outgroups (White et al., 2021), to integrating soccer leagues in post-conflict settings (Mousa, 2020), and exposing individuals to the perspectives of particularly likable outgroup members (Ramasubramanian, 2015), recent studies offer a wealth of creative approaches to engineering interactions that are most likely to improve intergroup relations.

But opportunities for optimal forms of intergroup engagement are often extremely limited outside of carefully curated experiments, particularly in conflict and post-conflict settings. In deeply divided societies, segregation can pose steep social, economic, and psychological barriers to intergroup engagement (Enos, 2017; Joyce and Harwood, 2014). Moreover, self-selection into information environments that reinforce existing opinions, beliefs, and identities can further reinforce intergroup segregation (Takahashi, Jefferson and Earl, 2023; Landry and Halperin, 2023). As Schieferdecker and Wessler (2017) conclude, “those who would potentially benefit the most from outgroup exposure might also be those who are least likely to be exposed.”

While recent research suggests that social media might help to overcome some of these barriers (Aday et al., 2010; Levy, 2020; Asimovic et al., 2021), the homogeneity of online networks often limits the potential for online information to cross group lines. Moreover, online content created organically in conflict settings is rarely designed for outgroup consumption, making it less than optimal for use in cross-group engagement. Accordingly, the literature on social media’s potential to generate outgroup exposure and bridges between groups in conflict is only just emerging, with few studies providing direct causal evidence of the effects of online exposure to outgroup-generated content on intergroup attitudes or behaviors. To address this gap, we examine the promises and perils of online exposure to outgroup viewpoints in Jerusalem, through a series of studies summarized in Figure 1.

Contextual Analyses: Analyzing Facebook Content in Jerusalem	Study 1: Bridging Information Gaps in Jerusalem	Study 2: Understanding Outgroup Avoidance	Study 3: Combating Outgroup Avoidance
<ul style="list-style-type: none"> Date: 2018-2022 Sample: Text from publicly available Facebook groups in Jerusalem with over 1K followers Design: Descriptive analyses of Facebook posts Findings: Striking differences in the content of online discourse in Jewish and Palestinian Facebook posts from Jerusalem 	<ul style="list-style-type: none"> Date: November 2021-February 2022 Sample: Convenience sample of Jewish Israeli Facebook users based in Jerusalem Design: RCT testing effects of exposure to Palestinian content in Facebook feed Findings: Exposure to Palestinian Facebook posts does not affect attitudes and modestly increases avoidance 	<ul style="list-style-type: none"> Date: August 2022 Sample: Online sample of Jewish Israeli survey respondents Design: Descriptive survey with behavioral choice task Findings: Avoidance of Palestinian content is prevalent among Jewish Israelis and is correlated with outgroup prejudice, ideology, and religiosity 	<ul style="list-style-type: none"> Date: May 2023 Sample: Online sample of Jewish Israeli survey respondents Design: RCT testing approaches to reduce avoidance Findings: Of six different theoretically informed treatments, the only one to effectively reduce patterns of avoidance was financial incentives

Figure 1: Overview of studies examining patterns of avoidance.

We first use quantitative text analysis of data from public Facebook pages in Jerusalem to document that Israeli and Palestinian online social networks are highly segregated and focus on dramatically different topics (Figure 2). We then examine the consequences of desegregating online environments by conducting a Facebook field experiment in collaboration with a Jerusalem-based NGO that translates popular Facebook posts and disseminates them to Facebook users across communities in Jerusalem in an attempt to promote information across group lines and bridge social divides (Study 1).¹ To do so, we randomly assigned Jewish Israeli Facebook users residing in West Jerusalem to receive daily posts containing stories about the life of Palestinians in East Jerusalem in their newsfeeds for two weeks, and collected attitudinal and behavioral outcomes 1 to 14 days post-treatment. We find that exposure to Palestinian posts does not meaningfully affect Jewish Israelis' attitudes toward Palestinians or spark self-reported interest in consuming additional outgroup-oriented content. Our behavioral measures suggest that, in fact, exposure to outgroup posts modestly reduces subsequent online engagement with Palestinian content. We argue and provide suggestive evidence that exposure may be ineffective in shaping intergroup attitudes because Jewish Israelis actively avoid constructive engagement with Palestinian viewpoints when they come across this content online.

¹This experiment was designed to help our partner NGO determine whether the content they create can increase West Jerusalem residents' interest in Palestinian current events.

We interpret this pattern as *outgroup avoidance*, which we define as an active behavioral tendency to disengage from or minimize exposure to outgroups or outgroup content.² We argue that outgroup avoidance, which can unfold both on- and offline,³ poses a serious challenge for interventions designed to bridge between groups in conflict. This is because outgroup avoidance minimizes the take-up of, and engagement in, experiences that expose ingroups to outgroups.

Seeking to better understand the prevalence, correlates, and motivations of outgroup avoidance online, we designed a survey-embedded behavioral exercise (*Study 2*) in which we asked respondents to select and engage with Facebook posts written by Jerusalem residents from various social groups, including Palestinians. We find that Jewish-Israeli survey respondents generally avoid engaging with Palestinian content, and this avoidance is correlated with individual-level attributes such as baseline prejudice, religiosity, and right-wing ideology. Additionally, avoidance is often motivated by feelings of discomfort and anger, mistrust of outgroup sources, and pessimism about the future of intergroup relations.

Motivated by the results of *Study 1* and *Study 2*, we designed and tested a range of theoretically-informed strategies to combat intergroup avoidance and encourage constructive Jewish-Israeli engagement with Facebook content written by Palestinians (*Study 3*). Specifically, we modified the behavioral task featured in *Study 2*, by randomly assigning survey respondents to receive brief treatments aimed at addressing the most commonly articulated reasons for outgroup avoidance before asking them whether they would like to engage with Facebook posts written by various social group members, including Palestinians. Our results suggest that most treatments did not reduce avoidance. Apart from providing monetary incentives, which successfully reduced avoidance of Palestinian posts, and providing fact-checking labels, which marginally reduced avoidance, all other approaches yielded small and imprecisely estimated effects.

²Outgroup avoidance is related to, but different from selective media exposure (Klapper, 1960). Both selective media exposure and intergroup avoidance are driven by people's disinterest in engaging with counter-attitudinal information (Iyengar et al., 2019). However, as we show in *Study 2* intergroup avoidance is driven, to a great extent, by deep-seated mistrust, or even fear of engaging with outgroups.

³In online settings, avoidance occurs when individuals resist exposure to outgroup perspectives by unfollowing, opting-out, or otherwise choosing not to expose oneself to outgroup content.

Taken together, our findings highlights two central challenges of applying lessons from “optimally engineered” intergroup interactions to real-world, organic exposure in deeply divided societies. First, even if language barriers can be overcome, and content is shared across group lines, the type of content that is most likely to be produced within ingroup social networks may not improve attitudes toward outgroup members. Second, even if researchers and policymakers are able to identify the optimal content for outgroup consumption, entrenched patterns of avoidant behavior may simply be too difficult to overcome. Indeed, we demonstrate that avoidance is commonplace and persistent. Moreover, other than paying ingroups to engage with outgroup content, none of our theoretically informed approaches effectively reduced avoidance. This points to the need to find creative ways to align people’s incentives with positive exposure to outgroups.

Jerusalem: Deeply Segregated On- and Offline

Our research focuses on Jerusalem, a city marked by severe residential and social segregation, persistent repression, and cycles of violent intergroup conflict. Scholars of Jerusalem’s politics and geography have suggested that “social integration is virtually nonexistent,” and argue that intergroup dynamics in Jerusalem have “psychological power to foment violence and conflict” across Israel ([Shlay and Rosen, 2010](#)). As of 2019, nearly a million people live in Jerusalem. 38% of these residents are Palestinian, while the other 62% of residents in Jerusalem are Jewish-Israeli ([Korach and Hoshen, 2021](#)). Understanding intergroup relations in Jerusalem requires paying close attention to two key dynamics: state repression and segregation.

State Repression

Palestinians living in Jerusalem face routine hardships, as a direct consequence of municipal and national policies directed to promote Jewish control over the contested city ([Yiftachel and Yacobi, 2006](#)). For example, the Israeli state has confiscated significant portions of Palestinian land in East Jerusalem, to build large-scale Jewish neighborhoods, while devoting limited resources toward urban planning and development in Palestinian areas of the city ([Shlay and Rosen, 2010; Nassar,](#)

2015). Moreover, since Palestinian neighborhoods do not have recognized urban zoning plans, newly constructed Palestinian homes are often considered “illegal” under municipal or national laws. These homes are therefore often subject to threats of demolition (Freedman and Klor, 2022; Shlay and Rosen, 2010).

State repression extends beyond matters relating to land inequality and urban development. Palestinians in Jerusalem are heavily policed and surveilled (Abu Zayad, 2015). Further complicating life in East Jerusalem is the fact that most Palestinians living in the city are Jerusalem residents but not Israeli citizens. Under this legal status, Palestinian residents of Jerusalem are eligible to receive Israeli healthcare, social security, and municipal voting rights, but they cannot vote for the national parliament, and they must pay taxes and remain living in Jerusalem, in order to maintain their legal status (Shlay and Rosen, 2010). Accordingly, Palestinians are a vulnerable community whose legal status can be revoked by the Israeli state.

Segregation

Segregation is a strikingly salient feature of residential patterns and social life in Jerusalem, making it easy for Jewish Israelis to avoid information about the challenges Palestinian residents of the city routinely face. The city is politically and socially divided into two segments: West Jerusalem — overwhelmingly comprised of Jewish Israeli neighborhoods — and East Jerusalem — largely made up of Palestinian neighborhoods . Public service provision in Jerusalem is also highly segregated, with separate transportation and education systems catering to different communities (Rokem, Weiss and Miodownik, 2018).

Despite the stark patterns of residential segregation and institutional separation, it is not uncommon for Jewish and Palestinian residents of Jerusalem to cross paths with each other in daily life. Intergroup contact between both groups occurs in commercial spaces (e.g., shopping malls), public parks, and health clinics, typically located in Jewish segments of the city (Weiss, 2020a, 2021). Unlike Palestinians, who may have many reasons to venture into West Jerusalem (such as employment or access to services), Jewish residents of Jerusalem are much less likely to visit

Palestinian neighborhoods in East Jerusalem (Shtern, 2015). This disparity has been exacerbated as a result of violence that occurred during the First and Second Intifadas. In light of these patterns, Jewish Israeli residents of Jerusalem are relatively uninformed about the realities of day-to-day life in Palestinian neighborhoods of Jerusalem (Romann, 2006).

The adverse consequences of segregation in Jerusalem are exacerbated by linguistic barriers, which inhibit Jewish Israelis' ability to consume any type of native content about Palestinian life in East Jerusalem. Not only is Jerusalem a physically segregated city, but recent research suggests that Jewish and Palestinian online spaces are highly segregated as well (Harel, Jameson and Maoz, 2020). In a 2017 representative survey of Jewish Israelis who regularly use social media, about three-quarters of respondents reported no online contact with Arabs whatsoever, 17% reported low frequency of online contact, 6% reported medium frequency and only 3% indicated high or very high frequency of online contact with Arabs (Lissitsa, 2017). Given the high levels of segregation both on and offline, Jerusalem is an important case for studies examining the social and political consequences of outgroup exposure.

Not only is online intergroup engagement rare, but our analysis of data from public Facebook pages and groups from local communities in East and West Jerusalem indicates a city divided in the substance of its online content. While state repression and Israeli-Palestinian relations are highly salient for Palestinians, they are rarely discussed by Israelis.⁴ Figure 2 shows the results of structural topic models (Roberts et al., 2013),⁵ displaying the most prevalent topics in public Facebook groups and pages from East Jerusalem (left) and West Jerusalem (right). Top topics from the East Jerusalem neighborhood pages often reference political violence and state repression. These include Violence and Clashes, Demolitions and Destruction, Israeli Crimes, Movement Restrict-

⁴To collect these data, we searched Crowdntangle for all public groups and pages with neighborhoods in East or West Jerusalem (in Arabic or Hebrew respectively) in their names. We added each page with over 1000 followers to the Crowdntangle database and downloaded all posts from 2019-2022. Our consideration of data posted publicly on Facebook over several years ensures that the descriptive analyses we report are not an artifact of isolated events increasing the salience of conflict, but rather a more stable depiction of content posted by Jerusalem residents over time.

⁵We estimate separate topic models for the Arabic and Hebrew datasets. We use the R package `quanteda` to pre-process our data (removing punctuation, URLs, and stopwords) and the R package `stm` to conduct our analysis.

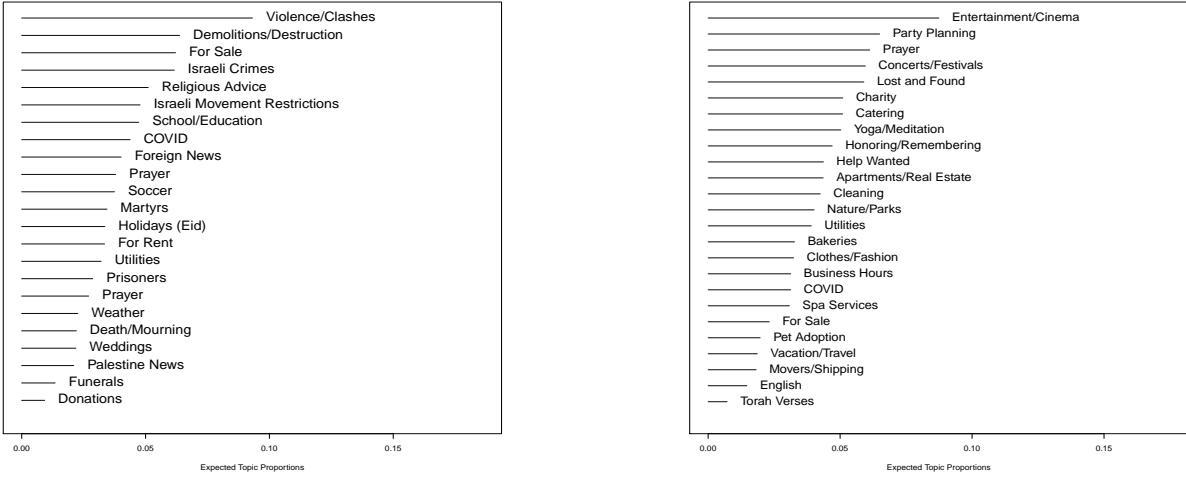


Figure 2: Conflict-related topics are the most prevalent topics of Facebook posts from Palestinians. However, conflict is rarely discussed in posts written by Jewish-Israelis. This figure reports structural topic models displaying the most prevalent topics in posts on public groups and pages from East and West Jerusalem neighborhoods from January 2019-July 2022.

tions, Martyrs, and Prisoners. Dictionary analysis also suggests that discussion of the occupation is highly salient for Palestinians, with one in every five posts referencing the occupation. On the West Jerusalem pages, there is extremely little discussion of the conflict or of Palestinians with top topics including Entertainment and Cinema, Party Planning, Prayer, Concerts and Festivals, Catering, Lost and Found, Yoga and Meditation, Help Wanted, and Nature and Parks. Dictionary analysis suggests that fewer than 1% of posts on average reference either Palestinians, violence, or intergroup conflict. The differences in topics discussed by East and West Jerusalem Facebook users are striking, and they follow a commonly observed pattern in which group identity and intergroup conflict are typically more salient for members of subordinated groups than for members of dominant groups (Pratto and Stewart, 2012).

Study 1: Bridging Information Gaps in Jerusalem

To test the effects of exposing Jewish Israelis to Palestinian points of view, we designed and implemented a Facebook field experiment from November 2020 to February 2021 in Jerusalem. In

the experiment, we exposed a sample of Israeli residents of West Jerusalem to content produced by Palestinian residents of East Jerusalem at least once per day over a 14-day period.

To carry out our first study, we partnered with a Jewish-Palestinian NGO that seeks to combat online segregation by exposing Jerusalem residents to a more diverse set of Facebook posts about daily life across the city. The organization’s mission is to provide an unfiltered glimpse into the daily reality of different communities in Jerusalem. To that end, they translate Arabic-language Facebook posts about local Jerusalem experiences into Hebrew (and vice versa) and post this content daily in their 35,000+ Facebook followers’ news-feeds. As we describe below, our study evaluates how Jewish residents of Jerusalem who do not already follow our partner NGO’s Facebook page react to exposure to this type of content.

Facebook is well-suited for a test of the effects of exposure to Palestinian viewpoints and experiences. Israel leads the world in social media use, with 77% of the population using social media as of 2019 (Taylor and Silver, 2019). Social media marketing data suggests that around 85% of Israeli internet users regularly use Facebook, and Israelis spend an astounding average of eleven hours daily on social networks, which is almost double the world average of six hours (Stats, 2018). The following sections describe Study 1’s theoretical motivation, experimental design, and primary results.

Theoretical Motivation

Existing evidence suggests that residential segregation along ethnic, racial, or religious lines can impair intergroup relations (Kasara, 2013; Enos and Gidron, 2018; Weiss, 2020b). The negative consequences of segregation are a result of multiple mechanisms relating to the increased salience of group boundaries, psychological distance, and intergroup anxiety (Enos, 2017; Pettigrew and Tropp, 2006). Indeed, simply spending more time around ingroup members can lead to higher levels of discrimination against outgroups (Scacco and Warren, 2018). Online segregation—amplified by language barriers and limited information about how to access outgroup networks (Asimovic, 2023)—can have similarly negative consequences for intergroup relations. Recent studies suggest

that spending more time in homogeneous social media networks increases intolerance and polarization (Levy, 2020; Stroud, 2010), and amplifies the spread of misinformation, extremist content, and hate speech (Goel et al., 2023; Rhodes, 2022).

Because real-world opportunities for outgroup exposure are limited, techno-optimists argue that social media has created new opportunities for breaking down barriers between groups (Amichai-Hamburger and McKenna, 2006).⁶ Existing evidence on the effects of exposure to outgroup perspectives on social media has only begun to emerge, however, and early findings are mixed.⁷ Levy (2020) demonstrates that exposure to counter-attitudinal news in the United States can improve attitudes toward the opposing political party. Similarly, Siegel et al. (2021) find that Egyptian Twitter users embedded in more diverse networks express more tolerant views over time. Along these lines, Asimovic et al. (2021) finds that individuals who are randomly assigned to deactivate Facebook during periods of intergroup tension in Bosnia express more prejudice toward outgroups than those who remain online. In contrast, Bail et al. (2018) provide evidence from the U.S. context that exposure to opposing political views on Twitter may actually increase ideological polarization, while other work finds little to no effect of exposure to counter-attitudinal content (Guess and Copdock, 2020; Nyhan et al., 2023). Online exposure to outgroups can be both more and less effective than in-person contact for prejudice reduction, as it enables greater accessibility and anonymity—potentially lowering social anxiety but also exacerbating biases through deindividuation. While structured interactions may foster meaningful exchanges, their impact likely depends on the same conditions that facilitate positive in-person contact, such as equal status, cooperation, and shared goals.

Given these disparate findings, we do not have clear expectations about the effect of exposure to Palestinian viewpoints on Jewish attitudes and behaviors. On the one hand, online exposure to perspectives from Palestinians living in the same city might generate empathy by humanizing and

⁶Along these lines, recent work has taken traditional contact and perspective taking experiments into the online sphere (Simonovits, Kezdi and Kardos, 2018)

⁷Notably, this is also the case in studies of the effects of traditional media exposure on prejudice, where findings are also mixed (DellaVigna et al., 2014; Paluck, 2009)

differentiating between outgroup members, sparking interest in consuming additional information about outgroup viewpoints among Jewish Jerusalem residents. On the other hand, we might expect exposure to be ineffective at reducing prejudice or promoting intergroup engagement if it reinforces negative beliefs or triggers concerns about outgroup threat. Importantly, providing rigorous empirical evidence on the effects of online exposure is essential not only to inform ongoing theoretical conversations but also to shed constructive, empirical, and theoretical light on the impact of our partner organization's routine activities.

Experimental Design

To test whether online exposure to outgroup narratives shapes attitudes and behaviorwe implemented an experiment that followed four steps, including: (1) a baseline survey, (2) a 14-day Facebook intervention exposing treated participants to daily posts from our partner organization, (3) an endline survey, and (4) two post-treatment behavioral measures. Figure 3 summarizes this design, which we describe in more detail below.



Figure 3: Experimental Design for Study 1

Recruitment and Baseline Survey

To recruit participants, we targeted Jewish Facebook users from West Jerusalem with advertisements in Hebrew inviting them to participate in two waves of a short survey. To encourage participation, we offered respondents the opportunity to enter a raffle to win an iPhone as well as ten 50 NIS (Israeli Shekel) vouchers. Participants who clicked on our advertisement were redirected to

Facebook Messenger, where we administered our survey natively within Messenger using a digital marketing platform called SurveyBot.

If respondents consented to participate in the baseline survey, they were asked a short set of demographic questions, feeling thermometer questions about several types of outgroups, questions relating to empathy and perspective-taking, and items relating to social media consumption. The survey was designed to take no more than ten minutes to complete. A description of all items collected in our baseline survey is depicted in Section [S1.3](#) of the supplementary materials.

Our recruitment advertisement reached 273,219 unique Facebook users living in Jerusalem. This is about 40% of the 700,000 estimated Facebook users living in Jerusalem.⁸ 8,092 people clicked on the ad to take our baseline survey. This represents a 3% click-through rate, about three times the average rate for ads across industries. 6,153 of these individuals consented to participate in our study. Of the 6,153 people who consented to participate in our study, 4,532 answered at least one baseline survey question and 3,041 completed all 23 questions at baseline.

Treatment

To administer our treatment, we focused on Jewish Facebook users living in Jerusalem who consented to participate in our study, even if those consenting users did not complete our baseline survey, and randomly assigned them to receive 14 posts in their Facebook newsfeeds over a period of two weeks (approximately one post per day). Users were block randomized by self-reported political identification, to receive Facebook posts about Palestinians' daily lives in East Jerusalem, which largely focus on Palestinians' interactions with Israeli authorities. Common topics in these posts include arrests, destruction of property, targeted violence, harassment by state authorities, and other difficult features of daily life. We present an example post in Figure 4, and the full set of post in Section [S1.1](#) of the appendix.

The content of these posts may seem unpleasant. However, it reflects the topics that most frequently appear on public Palestinian Facebook pages, as Figure [2a](#) demonstrates. Moreover, the

⁸Estimate provided by Facebook's Ads Manager.

posts we select for our treatment have been employed by our partner organization as part of their routine activity, in an attempt to bridge information gaps in Jerusalem.⁹



Figure 4: Example of 0202 Facebook Post. This post provides information about the arrest of a Palestinian woman working as a head of guards in the al-Aqsa mosque.

Because the SurveyBot platform we employ to collect baseline data stored unique identifiers for each person who consented to participate in our study, we were able to randomly assign each treated individual to receive Palestinian content in their personal Facebook newsfeeds. Targeting individuals with Facebook advertisements does not guarantee that the ads will appear on their newsfeeds, but we optimized spending to increase the visibility of our ads. According to Facebook Ads Manager metrics, 92% of our treated participants saw our ads over the course of the treatment period, and these users saw an average of 14.3 posts, suggesting that the vast majority of our treated users indeed received all 14 days of treatment. Our treatment ads received high levels of engagement relative to typical Facebook ads. The click-through rate for our ads was 12%, more than 12 times the average click-through rate of promoted posts on Facebook.¹⁰ This offers some

⁹Our design also allows us to compare the effects three treatments (1) Facebook posts about Palestinians' interactions with Israeli that center the stories of individuals (personal posts), (2) Facebook posts about Palestinians' interactions with Israeli authorities that do not highlight individual stories (non-personal posts), 3) A more diverse set of Facebook posts employed by our partner organization at the time of the study. We present disaggregated analyses of our various treatment effects in Appendix S1.7 and focus on pooled analysis in the main paper.

¹⁰Rather than measuring avoidance, the click-through rate provides a metric of low-level attention, offering some

reassurance that our treatment was delivered effectively to study participants' newsfeeds.

Outcomes

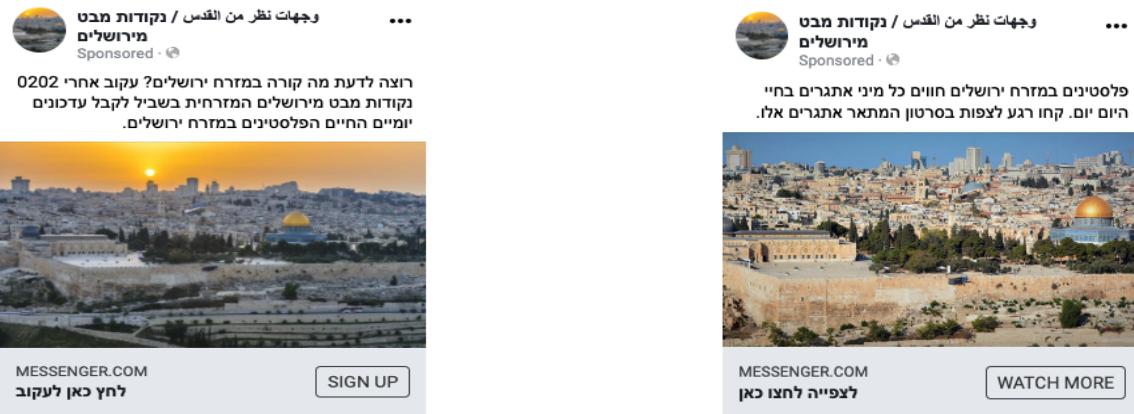
One day after the treatment period, we invited all subjects to participate in an endline survey by sending them a private message via SurveyBot. To increase response rates, we sent reminders to subjects for seven additional days. Our endline includes measures of attitudes toward the outgroup—including prejudice, empathy, perspective-taking—and interest in consuming outgroup-oriented media. A detailed description of all attitudinal outcomes used in the main analysis is reported appendix S1.4. Like the baseline survey, the endline was administered natively within Facebook Messenger using SurveyBot.

Out of a total of 6,153 treated Facebook users, 1,270 users responded to at least one question on the endline survey. In Section S1.6 of the appendix, we address potential concerns that might arise from attrition in three ways. First, we demonstrate that treatment status does not predict participation in our endline survey. Second, we show that treatment status does not predict non-response to particular questions on our endline survey. Third, we use baseline survey data to examine correlates of participation in the endline. We are reassured by the fact that, although age and gender predict endline participation, religiosity and affect towards Palestinians do not correlate with non-response to our survey.¹¹

We supplemented our endline survey with two behavioral measures tracking whether users click on promoted advertisements embedded in their Facebook newsfeeds. As reported in Figure 5, these promoted advertisements asked respondents to (1) click in order to follow a Facebook page sharing news from East Jerusalem, and (2) click in order to watch a video sharing the perspective of an East Jerusalem Palestinian resident. Both behavioral outcomes were measured from 8 to 14 days after the treatment period. Because behavioral measures were administered to all consenting

additional insight (besides impression metrics) into whether or not users actually noticed our treatments. If users did not actually notice our treatment posts in scrolling through their timelines, we would be unlikely to observe any effects. A high click-through rate suggests that our ads were noticeable or eye-catching but does not necessarily tell us whether respondents avoided or sought out the content to engage with it in a constructive fashion.

¹¹However, given the rate of attrition in our endline survey, we encourage readers to interpret our estimates of attitudinal effects as sample average treatment effects.



(a) Like 0202 Page Ad

(b) Watch Video Ad

Figure 5: Behavioral Measures. The left-hand side advertisement states: “Interested in learning what is happening in East Jerusalem? Follow 0202 Points of View from Jerusalem in order to receive daily updates regarding Palestinian life in Jerusalem.” The right-hand side advertisement states: “Palestinians in East Jerusalem experience many challenges in their daily life. Take a moment to view a video about these challenges.”

participants in our study—whether or not they completed a baseline or endline survey—they do not suffer from the same attrition concerns as our attitudinal measures.

Results

In the left panel of Figure 6 we report treatment effects on our main attitudinal outcomes— affect toward Palestinians, beliefs about whether Palestinians want to live in peace, an empathy index (composed of one measure of empathy for the outgroup and one measure of respondents’ beliefs about the importance of perspective-taking), and an exposure index (measuring respondent interest in being exposed to Palestinian viewpoints). These estimates are taken from OLS regressions in which we regress an outcome of interest over a treatment indicator, block fixed effects, and pre-treatment outcome measures (when available). We find no evidence that treatment affected attitudes toward Palestinians. Across all attitudinal outcomes, point estimates are very small and imprecisely estimated.

The right panel of Figure 6 displays treatment effects on our behavioral outcomes measuring consumption of outgroup content. We find a modest *decrease* in treated subjects’ engagement with

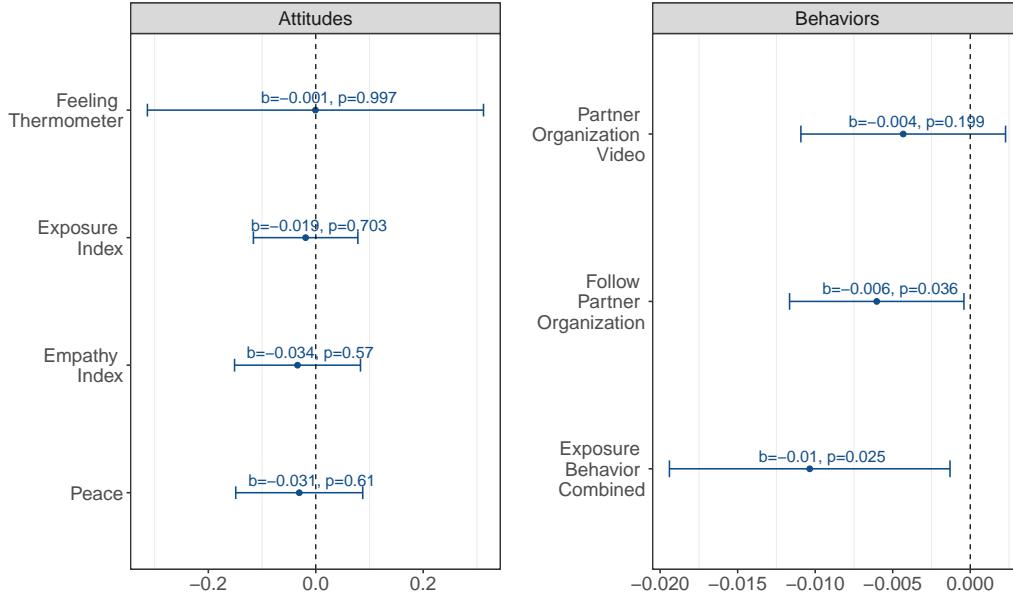


Figure 6: Facebook field experiment results. Attitudes—each point estimate in the left panel is extracted from an OLS regression with block fixed effects, where we regressed a survey outcome over our pooled treatment indicator and pre-treatment measure of the outcome. Behaviors—each point estimate in the righthand panel is extracted from an OLS regression with block fixed effects, where we regressed a behavioral outcome over our pooled treatment indicator.

additional outgroup viewpoints, as measured by following our partner organizations’ Facebook page. While the effect on study subjects’ willingness to watch a video describing Palestinian experiences in East Jerusalem is imprecisely estimated, the direction of the effect is negative as well. Finally, our combined measure of behavioral engagement is negative and precisely estimated, suggesting that sustained exposure to Palestinian Facebook content for a period of fourteen days modestly reduced Jewish Israelis’ future engagement with Palestinian content online.

The findings reported in Figure 6 suggest that exposure to organically generated outgroup viewpoints on Facebook does not shift prejudice and modestly increases avoidant behavior. Our pre-registered analyses in Study 1 do not provide direct evidence on the matter; however, we posit that our treatments were largely ineffective due to Jewish Israelis’ limited interest in constructively engaging with Palestinian content. Although the click-through rate on our treatment posts was high relative to average promoted posts, other forms of engagement were relatively rare, with just 3% of

participants leaving comments and 5% of participants leaving emoji reactions on treatment posts.

Exploratory analysis suggests that comments (which were hidden from other participants using content moderation filters) were typically negative in tone, often expressing frustration with seeing Palestinian content online. Similarly, the most common reaction emojis left on our posts (also not visible to study other participants) were angry faces and laughing faces (likely expressing sarcasm given the serious nature of promoted posts). In light of these patterns that emphasize how most respondents avoided any constructive engagement with treatment posts, and such posts likely encouraged avoidant behavior, we turn to empirically investigate the prevalence, correlates, and motivations underpinning outgroup avoidance.

Study 2: Understanding Outgroup Avoidance

How common is the outgroup avoidance that we suggest might account for the results of [Study 1](#), and what explains it? To better understand the dynamics of outgroup avoidance online, we designed a follow-up study that included a survey-embedded behavioral task to document the prevalence, correlates, and underlying motivations of Jewish Israelis' avoidance of outgroup Facebook content.

Theoretical Motivation

Outgroup avoidance is likely driven by a range of personal-motivational and situational factors. Building on research in social and political psychology, we outline four potential motivations for outgroup avoidance. First, psychologists and political scientists have argued that *cognitive dissonance* may lead to avoidant behavior ([Gubler et al., 2022](#); [Gubler, Halperin and Hirschberger, 2015](#)). Specifically, ingroup members often feel uncomfortable with the realization that their own group is at fault in settings of intergroup conflict. For that reason, they may be wary of constructive engagement with outgroup viewpoints ([Takahashi, Jefferson and Earl, 2023](#)). Indeed, applied to our context, theories of cognitive dissonance suggest that ingroups may avoid engaging with outgroup content online in anticipation of experiencing discomfort, guilt, shame, anxiety, and stress.

Second, psychologists have suggested a mechanism known as *naive realism* to explain the reluctance of ingroups to engage with outgroup viewpoints (Ross, Ward et al., 1996; Porter et al., 2020; Minson and Dorison, 2022). Naive realism refers to the belief in the truth and objectivity of one's own attitudes and the belief that counter-attitudinal or outgroup arguments are less truthful or objective. Theory and evidence on naive realism suggest that exposure to counter-arguments should lead to feelings of anger or frustration, a factor that might motivate many people in conflict settings to avoid any form of constructive engagement with outgroup points of view.

A third potential explanation for intergroup avoidance is *cognitive lethargy* (Stanovich, 2021). The starting point of this explanation is an assumption that people are “cognitive misers” who instinctively avoid engaging with complex or oppositional arguments because they require considerable mental effort. In turn, disinterest in engaging with “hard topics” might lead ingroups to avoid engagement with outgroup content.

Finally, a fourth explanation for avoidance, which may be particularly important in the context of protracted conflict, relates to *pessimism or hopelessness* about present-day or future intergroup relations (Cohen-Chen, van Zomeren and Halperin, 2015). Indeed, believing that engaging with outgroup viewpoints will not lead to improvements in intergroup interactions may be a powerful motivator for avoidance because constructive engagement might seem like an ineffective or counterproductive behavior to pessimists.

Drawing on these insights, we seek to provide descriptive evidence on three main questions: 1) How prevalent is intergroup avoidance in the general Israeli population? 2) What types of Israelis are most likely to avoid outgroup exposure? 3) What are the most common self-reported explanations for avoidance?

Research Design

To better understand the dynamics of outgroup avoidance, we designed a follow-up survey fielded among a sample of 1,210 Israeli Internet users, matching the general Jewish population in terms of age, gender, education, and geographical location (We provide a full description of our survey

instrument in Appendix S2.1). Working with IPanell, an Israeli survey firm, we fielded our survey in August 2022.¹² The main outcome of interest in our survey was respondents' behavior in a brief task, in which they were asked to engage with Facebook posts originating from different communities in Jerusalem. Respondents were given a chance to select whether they read posts written by various social groups, including Palestinian residents of Jerusalem, and our key outcome of interest is whether respondents select to engage with Palestinian Facebook posts. Specifically, when introduced to our behavioral task, participants received the following prompt:

"The main goal of our study is to understand how people consume different types of social media content. To that end, we will now present you with the option to read two Facebook posts. These posts were either originally written in Hebrew, or were translated into Hebrew, by people living in Israel. Below is a list of different kinds of Facebook posts written by different people. All posts will be presented in Hebrew. Please select the type of posts you would like to read."

Types of posts include: posts by secular Jews in Jerusalem about their daily life, posts written by religious Jews in Jerusalem about their daily life, posts written by Ultra Orthodox Jews in Jerusalem about their daily life, and posts written by Palestinians in East Jerusalem about their daily life. To address measurement concerns, we randomly varied the number of posts respondents could select in the choice task. Half of our sample was asked to select a single type of posts to be read, and the other half was allowed to select as many types of posts as they liked from our list. After participating in the choice task, all participants were asked to explain their selection, and participants who did not select to engage with Palestinian posts were further asked to explain why they did not choose to engage with Palestinian posts.

Through this simple design, we are able to examine the prevalence of intergroup avoidance in a controlled setting, understand the degree to which Israelis of different demographic backgrounds

¹²IPanell is a common survey firm used in various publications focusing on Israeli public opinion and behavior (e.g., (Bassan-Nygate and Weiss, 2022)).

avoid Palestinian content online, and explore their (stated) reasons for doing so. Each of our descriptive analyses was pre-registered before data collection began and our survey and choice task received IRB approval from [REDACTED].

Results

In our main analyses, reported in Figure 7, we show that a majority of Jewish-Israeli respondents avoid engaging with Palestinian Facebook posts. Specifically, among respondents that were assigned to an unconstrained task in which they could select as many posts as they wanted, only 32% selected to engage with Palestinian content. Among respondents assigned to a constrained task, in which they were instructed to select a single type of posts, only 18% of respondents engage with Palestinian content.

After establishing these patterns of outgroup avoidance, we turn to examine the individual-level correlates of such behavior. Bivariate correlations in the right-hand panel of Figure 7 suggest that Israelis who have higher ratings of Palestinians on a feeling thermometer as well as men were more likely to select to read Palestinian posts, while religious and right-wing respondents were less likely to select to read Palestinian posts. These correlations confirm existing arguments suggesting that parochial individuals are less likely to constructively engage with outgroup content (Schieferdecker and Wessler, 2017).¹³

Using a post-task survey item, we descriptively examine respondents' reasoning for avoidant behavior. In Figure 8 we display the prevalence of reasons for avoiding Palestinian content expressed by respondents. The most prevalent motivations for avoidance reported by study participants include rationales relating to anticipated discomfort and anger, pessimism, lack of patience, and skepticism regarding the veracity of Palestinian content. As we further discuss in Table 1, these reasons map onto the primary motivations for avoidance highlighted in the literature, including cognitive dissonance, naive realism, cognitive miserliness, and hopelessness or pessimism.

Taken together, our results emphasize that outgroup avoidance is commonplace. In the Israeli

¹³In Figure S5 of the Appendix we further report the distribution of avoidance among various subsamples of interest.

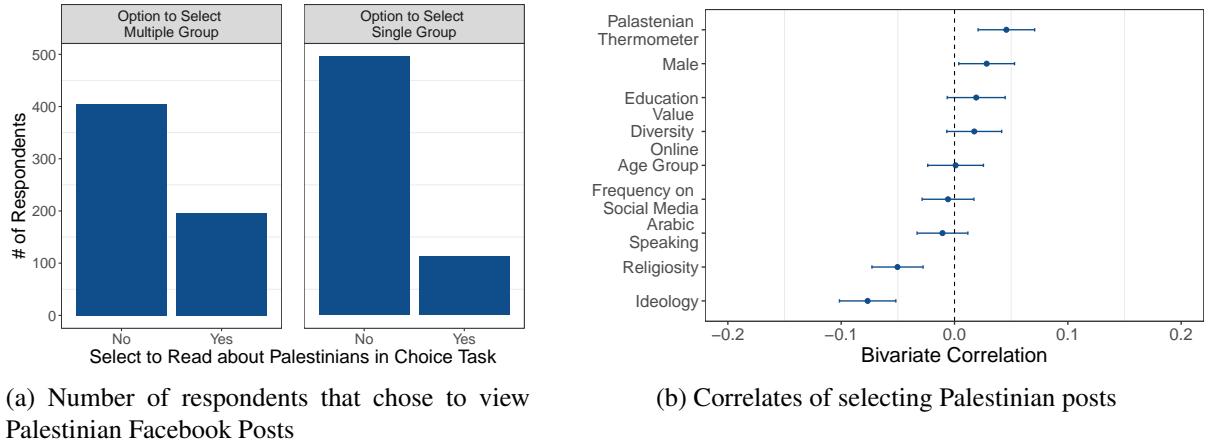


Figure 7: This Figure presents the main results from Study 2. Panel (a) demonstrates that a majority of Jewish respondents avoid engaging with Facebook posts written by Palestinians and that this tendency is extenuated when selection is limited to a single group. Panel (b) reports bivariate correlations of respondent covariates with a binary measure taking a value of 1 if a respondent engaged with Palestinian posts.

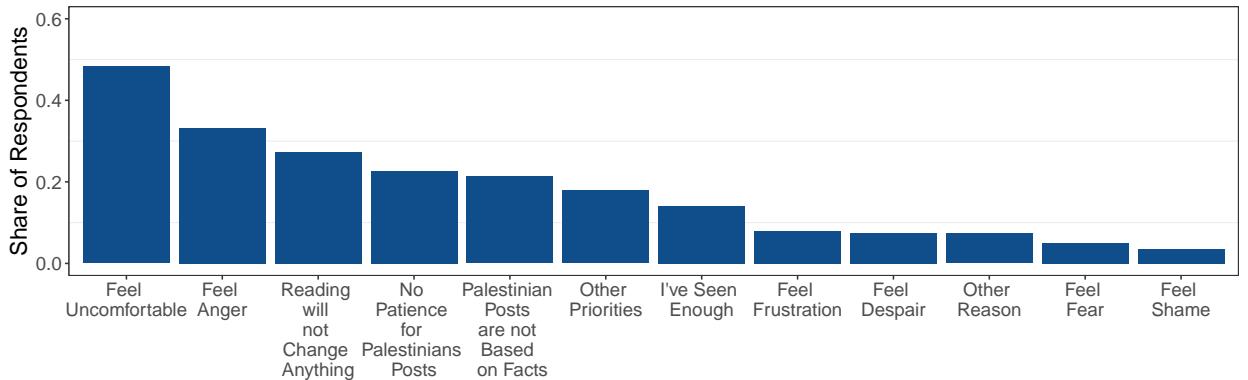


Figure 8: Distribution of reasons for avoidance. This plot reports the frequency of avoidance rationales, among subject who avoid Palestinian content in our choice task.

context, such avoidance correlates with baseline levels of prejudice, ideology, religiosity and gender, and is rationalized by respondents in terms of cognitive miserliness and dissonance, naive realism, and hopelessness and pessimism. Building on these insights, we turn to develop and test theoretically informed approaches that might be used to reduce intergroup avoidance.

Study 3: Reducing Outgroup Avoidance

Drawing on the evidence reported from [Study 2](#), we designed a final study to identify promising strategies to reduce outgroup avoidance. Specifically, through a final survey distributed among Israeli internet users, we experimentally evaluate how interventions targeting cognitive dissonance, naive realism, cognitive lethargy, and hopelessness or pessimism might mitigate outgroup avoidance.

Theoretical Motivation

The political psychology literature offers various ways to address the primary mechanisms motivating avoidance, which we documented in [Study 2](#). First, *cognitive dissonance* research suggests that people are motivated to maintain cognitive consistency to avoid psychological discomfort. Self-affirmation is a form of self-awareness that helps people achieve and maintain cognitive consistency ([Stone and Cooper, 2001](#)). Self-affirmation exercises are therefore thought to help mitigate cognitive dissonance by reducing feelings of anxiety, guilt, or discomfort ([Cohen and Sherman, 2014](#)). Therefore, self-affirmation tasks may be effective in reducing outgroup avoidance.

Turning to *naive realism*, often described as the belief in the objectivity of one's own attitudes and the biased nature of counter-attitudinal messages, interventions that increase intellectual humility offer much promise. Intellectual humility is a psychological disposition that encourages individuals to seek out and evaluate evidence so that they are less influenced by self-oriented motives. Psychologists have documented that increasing intellectual humility makes individuals more sensitive to counterevidence, less defensive when beliefs are challenged, and less concerned about appearing to be right ([Ballantyne, 2021](#)). Recent research suggests that simply reading about the benefits of intellectual humility can help mitigate naive realism ([Porter et al., 2020; López-Rodríguez et al., 2022](#)), encouraging individuals to seek out alternative viewpoints.

To combat *cognitive lethargy*—avoiding outgroup content because it requires too much effort to engage with—evidence from social psychology indicates that in-group endorsements can offer

intellectual shortcuts or heuristics to help cut through a noisy information environment. The heuristic of ingroup consensus—other group members engaged with this content and endorsed it—might be particularly powerful in reducing avoidance because it signals ingroup relevance (Hodson and Sorrentino, 2003).

Turning to *hopelessness or pessimism* which we show motivates avoidance, experimental evidence suggests that group malleability treatments are especially effective in sparking optimism and motivating individuals to take action in the context of ongoing intergroup conflict (Halperin et al., 2011). Group malleability treatments often emphasize how people can change their attitudes and behaviors at the individual, group, and intergroup levels (Halperin et al., 2011). Given their ability transform pessimism into optimism, we expect such treatment to reduce avoidance of outgroup content.

Finally, though not directly related to the psychological mechanism we uncover in Study 2, instrumental incentives—including economic and strategic incentives—have been shown to increase intergroup interactions and improve intergroup relations (Jha, 2013; Zhou and Grossman, 2022).¹⁴ Given the challenges of positively shifting psychological dispositions and attitudes in conflict settings, we expect that approaches that align ingroup incentives with outgroup exposure are a promising route for reducing avoidance. Drawing on these insights, we turn to test the effects of various theoretically informed approaches for reducing outgroup avoidance.

Research Design

For our third study, we recruited 4,294 participants from IPPanel that match the general internet-using Jewish population in terms of age, gender, education, and geographical location (A full description of our survey instrument is reported in Appendix S3.1). After answering demographic questions, participants were randomly assigned to one of eight conditions. Specifically, participants were either assigned to receive one of six treatments designed to reduce avoidance, a placebo treatment, or an empty control condition. Following treatment assignment, respondents parti-

¹⁴Though see Holliday et al. (2024) for evidence on the limits of incentives in reducing avoidance.

pated in the choice task described in [Study 2](#), enabling us to evaluate the degree to which each treatment (relative to either a placebo or control) could effectively reduce outgroup avoidance, and encourage Jewish Israelis to engage with Facebook posts describing Palestinians' daily lives in Jerusalem.

Theory	Measures (Study 2)	Interventions (Study 3)
Cognitive Dissonance	anticipate feelings of discomfort, frustration, despair, fear, or shame.	self-affirmation exercise
Naive Realism	belief in truth or objectivity of one's own views	intellectual humility exercise
Naive Realism	belief that outgroup narratives are less truthful or biased; anticipate anger when exposed to counter-arguments	ingroup fact check
Cognitive Lethargy	no patience for outgroup posts; have seen enough already; other priorities	ingroup endorsement
Hopelessness or Pessimism	reading posts will not change anything; seen enough	group malleability exercise
Instrumental Incentives	NA	monetary incentive

Table 1: Avoidance Theories, Measures, and Interventions

Interventions

In Table 1, we report all our interventions alongside their related theoretical frameworks and empirical manifestations in study 2. To reduce cognitive dissonance, we draw on a commonly used 10 question “Kindness Questionnaire,” which has been shown to effectively boost self-affirmation ([Cohen and Sherman, 2014](#); [Sherman, Brookfield and Ortosky, 2017](#)). The questionnaire consists of 10 yes or no questions written, so all participants should be able to say “yes” to each and affirm a positive view of themselves (e.g., “Have you ever been considerate of another person’s feelings?”). Each question also prompts respondents to think of concrete examples of when they have engaged in each type of kind behavior.

To reduce naive realism, we assigned respondents to participate in an intellectual humility exercise in which they complete a short reading task on the benefits of recognizing and owning one’s

own intellectual limitations in the service of pursuing deeper knowledge, truth, and understanding. As another approach to combating naive realism—specifically, the belief that oppositional information is less likely to be truthful—we display a fact check banner next to the choice task, which says, “All Palestinian posts have been fact-checked by Israeli researchers.” Recent research suggests that fact checks—particularly from ingroup sources—can increase belief in counter-attitudinal facts (Pasquetto et al., 2022).

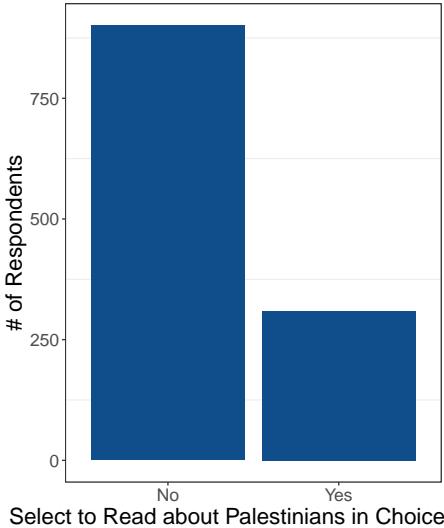
Following literature demonstrating that ingroup endorsements can help overcome cognitive lethargy (Hodson and Sorrentino, 2003), our fourth treatment displays a customized banner next to the choice task, which says, “Palestinian posts were liked and shared by Israeli Jews.” Additionally, inspired by previous studies (Halperin et al., 2011), participants assigned to the group malleability treatment read a short reading passage introducing the concept of group malleability and its relevance to various social dynamics, including intergroup conflict.¹⁵

To test whether and how instrumental incentives can reduce outgroup avoidance, we also include a monetary incentive intervention in which participants were told they would receive additional compensation (equal to the total compensation they receive for participation in the entire survey) if they engaged with Palestinian content in the choice task. Finally, we also include a placebo treatment. This treatment is a questionnaire that is commonly used as a placebo for cognitive dissonance interventions. The questions, initially developed by Reed and Aspinwall (1998), ask people to consider their personal opinions on a number of apolitical topics.

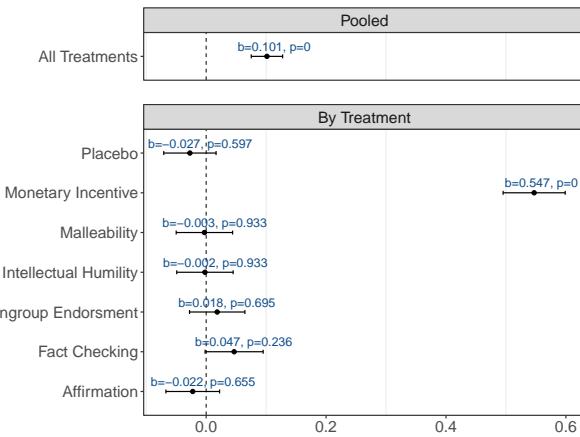
Results

We report our main results from Study 3 in Figure 9. As demonstrated in panel (a), we replicate the key insight from Study 2, demonstrating that patterns of intergroup avoidance are stark in our sample. That is, only 14% of Jewish Israeli respondents in our control and placebo groups selected to engage with Palestinian posts.

¹⁵Note that we collected manipulation checks for treatments designed to shape psychological dispositions (i.e. the self-affirmation, intellectual humility, and group malleability interventions).



(a) Patterns of Avoidance



(b) Treatment Effects on Selection of Palestinian Posts.

Figure 9: This Figure presents the main results from Study 3. Panel (a) reports the distribution of control and placebo group Jewish Israeli survey respondents selecting to read Palestinian posts. Panel (b) reports the effects of all treatments and the placebo condition on our main outcome of interest: selecting to read about Palestinians in the online choice task. We report Benjamini Hochberg corrected p. values along each point-estimate.

In panel (b), we examine how our various treatments affected patterns of outgroup avoidance. We show that, in aggregate, our treatments were effective in overcoming avoidance of Palestinian posts (Top panel of Figure 9(b)). However, this effect is almost entirely driven by the monetary incentive treatment. Indeed, no other treatments were effective in increasing outgroup engagement, with the possible exception of fact-checking, which had a positive, very small, and statistically significant effect relative to the placebo treatment (see Figure S7 in our Appendix) and a small, positive though imprecisely estimated effect relative to the control group.

In substantive terms, we find that among those respondents who received the monetary incentive, 70% chose to read Palestinian content, relative to 15% in the control group. By contrast, in the fact-checking treatment, which had the next largest (though imprecisely estimated) effect, just 20% of respondents chose to read Palestinian content. These patterns emphasize the large impact of monetary incentives, which have a strong and meaningful influence on behavioral tendencies of avoidance in our survey context.

Although most of the treatments we examine did not effectively reduce avoidance, our manipulation checks suggest that most treatments primed the intended psychological constructs of interest. Indeed our intellectual humility treatment increased respondents' scores on a humility index, and our malleability treatment increased respondents' scores on the malleability index (See Table S6). The self-affirmation treatment was not associated with more positive scores on our affirmation index. In turn, these additional analyses suggest that with the possible exception of self-affirmation, our null results are not a consequence of ineffective psychological stimuli. Instead, we interpret our overall findings to suggest that existing psychological stimuli may have direct effects on personal dispositions that are associated with outgroup avoidance. However, to the extent that such stimuli generate downstream effects on actual avoidant behavior, those effects are either very small or non-existent.¹⁶

Discussion and Conclusion

In this paper, we explore the dynamics of online exposure to outgroups in Jerusalem, a contested city situated in the center of one of the world's most intractable conflicts. We begin by demonstrating that online networks are not only socially segregated, but the content discussed in Jewish and Palestinian Facebook groups and public pages is fundamentally different (Figure 2). Informed by these patterns, in Study 1 we design and implement a field experiment to expose Jewish Israeli Facebook users to Palestinian posts. We find that sustained exposure does not shape Jewish users' intergroup attitudes but has a modest negative effect on their consumption of additional outgroup content (Figure 6).

We argue that exposure to Palestinian posts is ineffective in shaping intergroup attitudes because Jewish Israelis actively avoid constructive engagement with Palestinian content. Our finding that exposure to Palestinian viewpoints reduces future consumption of Palestinian Facebook content, as well as exploratory analyses suggesting that respondents primarily produced negative

¹⁶We further substantiate this argument in Appendix S3.3. Specifically, we employ an instrumental variable approach, using our treatment as an instrument for perceptions of malleability, intellectual humility, and affirmation. These analyses are generally in line with the main results reported in Figure 9.

comments and reactions in response to the content they observed, provides suggestive evidence in support of this interpretation. In turn, the results of our first study indicate that avoidance is a challenging hurdle because it reduces not only opportunities for outgroup exposure but also the quality of engagement conditional on actual exposure.

Study 2 substantiates this interpretation by measuring patterns of intergroup avoidance in a behavioral task administered as part of an online survey of Jewish Israelis. When given a chance to engage with Facebook content from various groups residing in Jerusalem, a majority of respondents avoid engagement with Palestinian Facebook posts, a tendency that correlates with outgroup prejudice, ideology, gender, and religiosity (Figure 7). Self-reported rationalizations of avoidance align with several well-documented psychological mechanisms, including cognitive dissonance, naive realism, cognitive lethargy, and hopelessness and pessimism. Our final study (Study 3) highlights the challenges of reducing avoidance in a setting of ongoing intergroup conflict. Our evidence suggests that while economic incentives are effective in increasing engagement with Palestinian Facebook content, interventions designed to overcome social and psychological barriers to intergroup exposure are largely ineffective.

Our results offer three lessons for scholars and policymakers designing interventions to improve intergroup relations in deeply divided societies. First, organic naturally-produced content, which is not generally designed for outgroup consumption, is unlikely to improve attitudes and may increase intergroup avoidance. This maybe particularly true in conflict settings, where social media is exploited by diverse conflict actors to achieve strategic goals (Zeitzoff, 2017). Second, intergroup avoidance is a common behavioral tendency in deeply divided societies, which must be taken into consideration when designing prejudice reduction and peace-building interventions. Specifically, within an experimental context, avoidance may shape the extent to which people constructively engage with outgroup content, reducing the potential for meaningful attitudinal change among treated respondents. More importantly, when seeking to scale insights from controlled experiments, intergroup avoidance remains a barrier to naturalistic exposure, rendering many interventions effective in theory but ultimately especially hard to scale. Finally, as we show in Study 2,

individuals who would most benefit from constructive engagement with outgroups are often those most likely to avoid them, further emphasizing why overcoming avoidance should be a salient concern for scholars and practitioners.

While Jerusalem is characterized by high levels of state repression, as well as linguistic barriers, we expect similar patterns of avoidance to emerge in broad range of contexts. Segregation by group identity—racial, ethnic, religious, or linguistic—as well as language barriers, shape social interactions and outgroup avoidance across both conflict and non-conflict settings. In conflict zones, intergroup divisions often structure urban geography as well as the broader social fabric of society through physical barriers, separate schooling, and segregated media, limiting intergroup engagement and exchanges(Shirlow and Murtagh, 2006; Bieber, 2006; Cammett, 2014). Importantly, these dynamics also extend to non-conflict settings. For example, in the U.S., recent studies document patterns of intergroup avoidance against racial minorities (Dietrich and Sands, 2023), and experimental studies show that even meaningful financial incentives are not effective in motivating polarized partisans to engage in bipartisan conversations (Holliday et al., 2024). While avoidance is prevalent across contexts, the salience of outgroup threat likely determines its intensity. Thus, future research should expand on our empirical investigations to comparatively examine patterns of avoidance across a broad range of contexts.

Our findings provide important insights for scholars of intergroup relations. However, they are subject to several limitations. First, while the Israeli context represents a critical and difficult setting through which to understand the dynamics of intergroup conflict and prejudice, our studies only offer evidence from a single case. Moreover, given that the vast majority of content produced in this context focuses on negative experiences of Palestinians engaging with the Israeli state, we focused our first study on evaluating the effects of such content on Israelis' attitudes and behaviors. While doing so presents a naturalistic test of the consequences of diversifying social media feeds, it also limits our ability to assess whether exposure to more positive outgroup content might foster more intergroup engagement. Future research should investigate the dynamics of outgroup avoidance—and online avoidance in particular—in a wider range of settings and work

to unpack the “black box” of content. While the effects of exposure and degree of avoidance may vary depending on the intensity of conflict, levels of segregation, and the types of content organically produced in these settings, we expect that the broader pattern of outgroup avoidance may be evident in a wide variety of conflict and non-conflict settings.

Second, like other naturalistic online field experiments, the attitudinal component of [Study 1](#) suffers from attrition, whereas our controlled survey exercises in ([Studies 2](#) and [3](#)) generated complete responses from all participants but are less naturalistic. Importantly, attrition in our context is unrelated to treatment, allowing us to identify the sample average treatment effect among participants in our endline survey. Regardless, the various studies we present complement one another and emphasize the importance of considering outgroup avoidance as a barrier for bridging between groups in conflict.

Third, our findings in [Study 1](#) may partially reflect avoidance of perceived advocacy-driven messages rather than purely organic outgroup perspectives given that outgroup messages appeared as sponsored posts from our partner organization. This challenge is not unique to our study but reflects real-world dynamics of digital intergroup exposure, where much cross-group content is actively promoted by civil society organizations, media outlets, or advocacy groups. That being said, our survey evidence addresses this limitation, and directly measures outgroup avoidance. Future research can build on our findings to explore this distinction more systematically, for example, by comparing responses to sponsored versus non-sponsored exposure to outgroup narratives.

Acknowledging these limitations, together our three iterative studies offer a set of consistent findings from both naturalistic and more controlled research environments that document the prevalence and durability of intergroup avoidance, and the challenges it poses to efforts promoting constructive intergroup exposure. Our results suggest that reducing avoidance is not only very important but also extremely challenging. While numerous studies offer insights into how to overcome the psychological underpinnings of avoidance, our experimental findings suggest that directly targeting these psychological mechanisms does little to increase engagement with outgroup points of

view. More promisingly, our monetary incentive treatment dramatically altered participants' engagement, highlighting the potential of aligning individuals' incentives with constructive outgroup exposure, as a promising route to reducing outgroup avoidance.

When discussing broader impact and scalability, many experimental studies of prejudice reduction implicitly assume that individuals will not avoid outgroups, when provided with opportunities for exposure. Our findings indicate that this may not be the case in conflict settings and deeply divided societies. Therefore, developing productive approaches that increase willingness to seek out outgroup viewpoints and engage with them constructively is a crucial first step when designing these interventions. We hope that future research on intergroup relations will build on our work, and continue to develop effective strategies for overcoming avoidance both on and offline.

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Outgroup Avoidance

Supplementary Information

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S1 Study 1 Supplementary Materials

S1.1 Selection of Facebook posts for Treatment Conditions

We followed four steps in selecting a total of 28 Facebook posts from the posts used by our partner organization in their routine activity. In designing our study, we planned to examine treatment effects across different types of posts. Specifically, we intended to compare the treatment effects of personal posts (containing an individual's story and photo) and non-personal posts (containing a story and photo describing a group of people). For that reason, we selected 14 personal and 14 non-personal posts. Below we describe our selection procedure.¹

1. We viewed the full set of posts from our partner organization about East Jerusalem, spanning the period November 1, 2020 through January 26, 2021. (Note that one treatment post is dated from February 16, 2021. One post was rejected by Facebook due to relatively poor photo image quality. We replaced this post with a post from February 16, 2021.)
2. We excluded any posts that did not focus directly on East Jerusalem residents' interactions with the Israeli state (what East Jerusalem residents would describe as experiences of occupation). In practice, this material primarily focused on arrests and other law enforcement). We, therefore, excluded all posts focused on sports, entertainment, art and culture, and news unrelated to East Jerusalem residents' day-to-day experiences interacting with the Israeli state. These interactions typically involved Israeli law enforcement. Importantly, as we show in Figure 2 this content is the most popular and prevalent content in East Jerusalem social networks.
3. We then sorted all topically relevant posts into two categories: (a) those focused on individual or personal news, and (b) those focused on non-personal or communal news. Personal posts focus on the experiences of one specific individual (or, in a few cases, several individuals). They refer to this person by name and focus on that individual's experiences of interacting with the Israeli state. In all personal posts, a picture of the individual's face is shown in the post.
4. We deliberately excluded all posts that:
 - (a) could not clearly be categorized as either personal or non-personal in their focus.
 - (b) included graphic or disturbing images of violence or the consequences of violence on human bodies, out of a concern that such images might trigger or traumatize study subjects.
 - (c) included blurry photographs.
 - (d) contained video clips.

S1.2 Selected Posts

In this section, we present all personal and non-personal posts used in our intervention. As is evident in Figures S2-S3, the content employed in our personal condition included 5 posts about arrests, 4 posts about house demolitions, 2 posts about targeted violence, and 3 posts about harassment by the state. Similarly, the content employed in our non-personal condition included 5 posts about arrests, 2 posts about house demolitions, and 9 posts about harassment by the state. Each post included a Hebrew translation followed by an original Arabic Facebook post and an image. A translation of all posts is reported below:

¹We also included an “organic condition,” that exposed a subset of respondents to the daily post circulated by our partner organization online each day.

Figure S2: Personal Treatment Ads

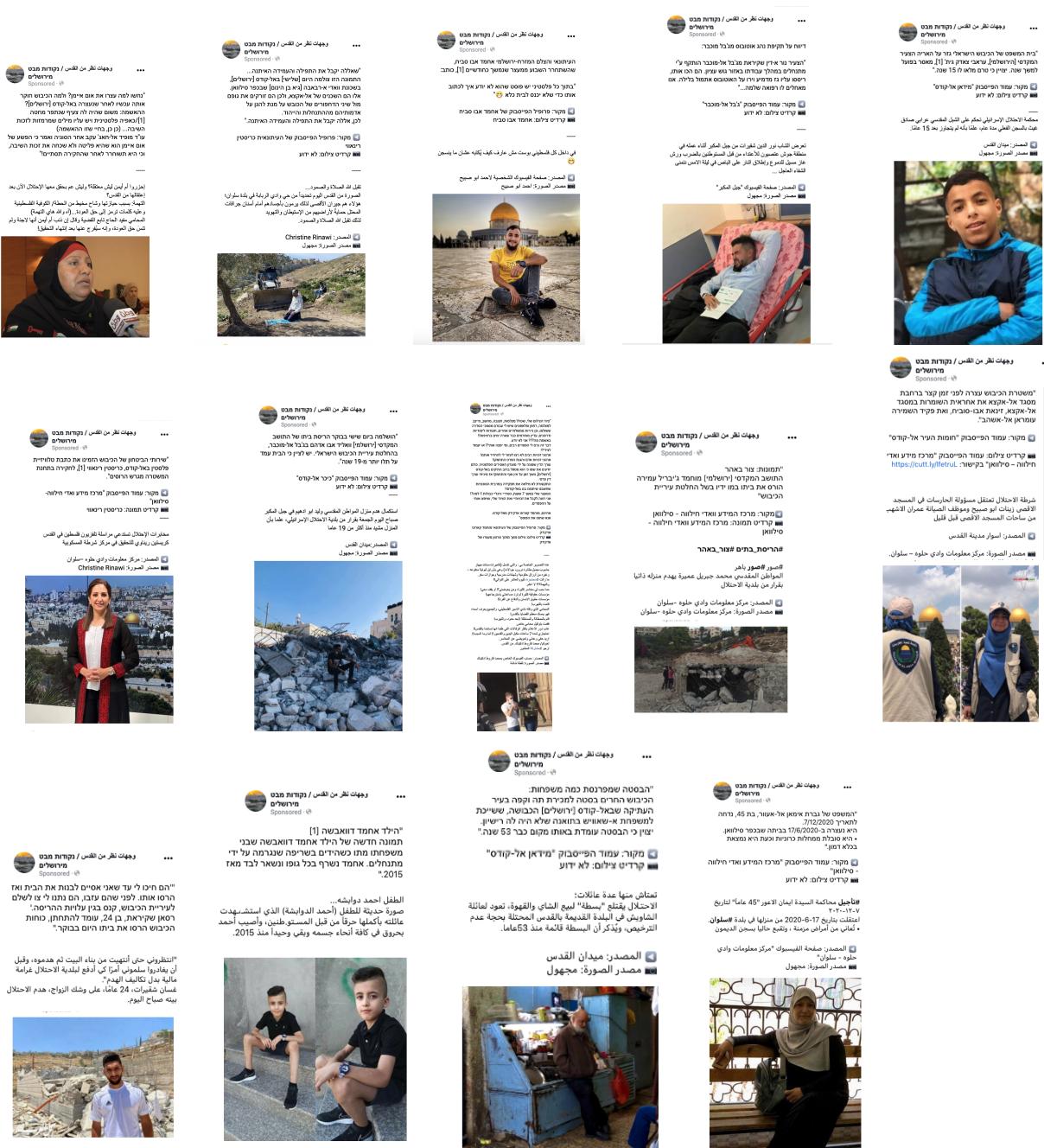
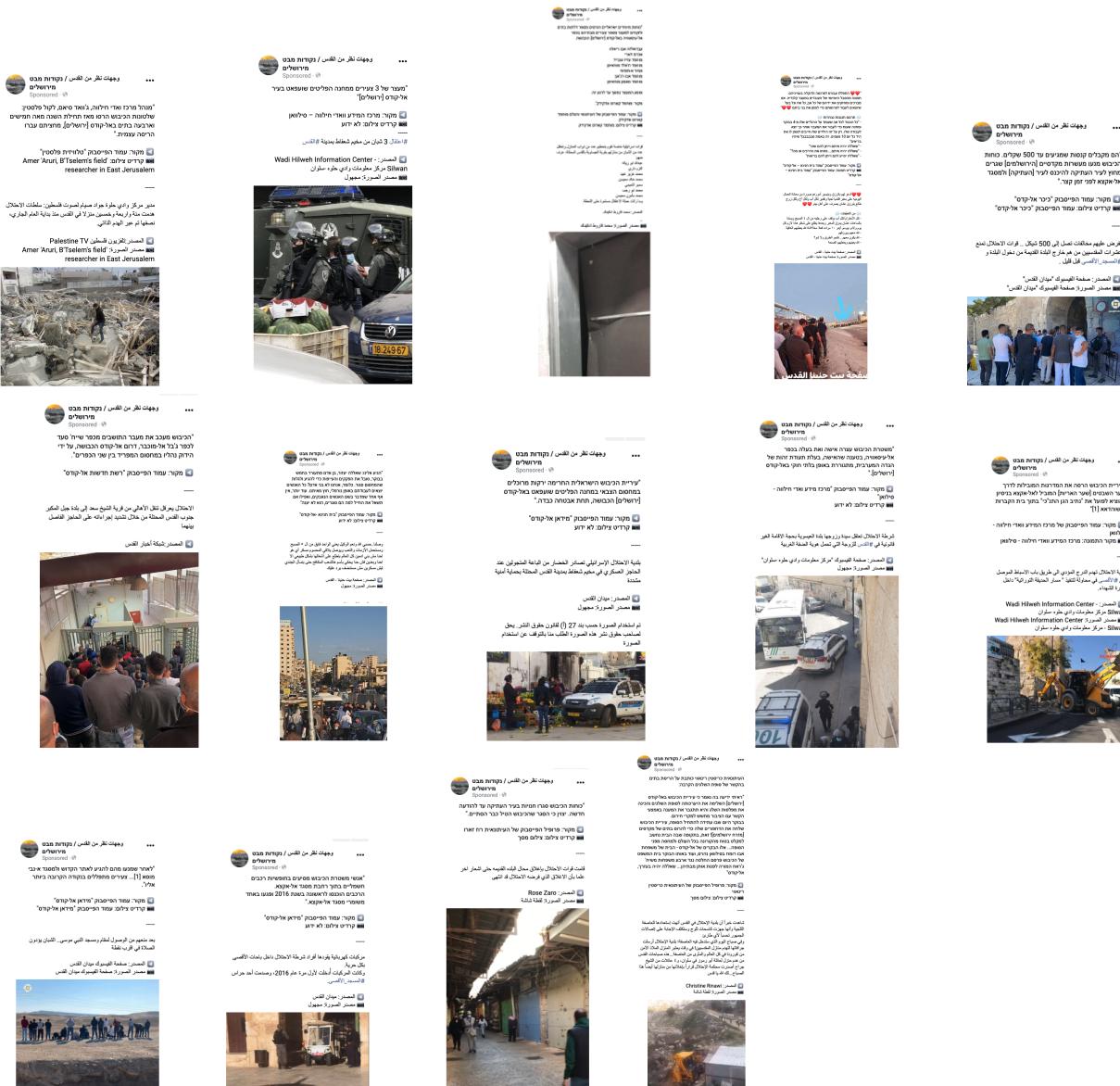


Figure S3: Non-Personal Treatment Ads



S1.2.1 Non-Personal Post Translation

1. The manager of Wadi Hilwa Center, Juad Siam, informed [the journal] “The Palestinian Voice”: Since the start of the year, the occupation forces demolished 150 homes in al-Quds [Jerusalem], half of these were self-demolished.
2. An arrest of 3 youths from the Shuafat refugee camp in the city of al-Quds [Jerusalem].
3. Israeli Special forces are demolishing a number of home doors and arresting a number of youths from their homes in the village of al-Issawiya in occupied al-Quds [Jerusalem].
 - Abdalla abu Riala
 - Akram Dari
 - Mohammad Aziz Ubaid
 - Mohammad Khaled Muhaisan
 - Samir A-Tamimi
 - Mohammad abu-Rajb
 - Mohammad abu Rajab
 - Mohammad Mamun Muhaisan

The arrests are continuing until this moment.

4. Heart emoji Pray for them for livelihood and relief in their issues. This is a picture of the daily suffering of the workers waiting at kalandia checkpoint. We bless and strengthen each father, each brother, each husband that goes work for their livelihood in order to finance the people in their home. Heart emoji.
5. They are receiving fines up to 500 Shekel. A while ago, the occupation forces prevented tens of Makdasis [Jerusalemites] that live outside of the old city from entering the [old] city and the al-Aqsa mosque.
6. The occupation is delaying residents trying to get from the Sheikh Saed village to the Jabel al-Mukaber village, in southern occupied al-Quds, by making the rules of the checkpoint separating between both villages more stringent.
7. We received: God help, a person wakes up at 5 am, suffers the traffic jam and exhaustion, in order to arrive and find out that the checkpoint is closed. Are we not human beings? All people go out to work normally, except for us. Moreover, there is no one who raises a voice for the struggling people, and even if you ask a soldier why they are closing the checkpoint, he [the soldier] won't answer.
8. The occupation municipality confiscated vegetables from vendors at the military checkpoint in the Shuafat refugee camp in the occupied al-Quds [Jerusalem], and they were accompanied by many security forces.
9. The occupation police arrested a woman and her husband in the Issawiya village, claiming that the woman holds a West Bank identity card, and is living illegally in al-Quds [Jerusalem].
10. The occupation municipality demolished the stairs leading to The Tribe Gate [The Lions Gate] that leads to al-Aqsa in an attempt to promote “the Biblical Trail” in the Shuhadaa cemetery.
11. After they weren't allowed to enter the holy site and Bani-Mousa mosque, youth are praying in the closest location [to the mosque].
12. Policemen from the occupation police are freely driving electric cars in the main yard of the al-Aqsa mosque. The cars were first brought in 2016 and hit one of the guards of the al-Aqsa mosque.
13. The occupation forces closed stores in the old city until further notice. It is noteworthy that the [general COVID-related] lockdown that the occupation has declared is already over.

14. The journalist Kristen Rinawi writes about house demolitions in the context of the upcoming snowstorm: “I saw an article stating that the occupation municipality in al-Quds [Jerusalem] has completed its preparations for the snowstorm and prepared the snow-plow and will increase its capacities in order to stay in touch with the public, in case of emergency. On the morning the snowstorm was meant to start, the occupation municipality sent its bulldozers in order to demolish homes of Makdasis [East Jerusalem residents]! This is at a time in which the home is considered as a shelter, especially from the global COVID virus, and as a shelter from the storm. These are al-Quds mornings - the house of the abu Rumuz in Silwan was demolished, moreover on the same morning the court of the occupation announced its decision against four families in Sheikh Jarakh that calls to expel them from their houses. Allah should help you, al-Quds.”

S1.2.2 Personal Post Translation

1. Guess why they arrested Umm-Ayman? And why is the occupation investigating her after she was arrested in al-Quds (Jerusalem)? The allegation: Since she had a scarf embroidered with a Palestinian kaffiya and it had words that were alluding to the right of return. (yes, yes, I swear this is the allegation). Attorney Mufid al-Hajj is following this issue and said that Umm-Ayman’s crime is that she is a refugee and she didn’t forget her right of return, and she will be released after the investigation is over.
2. Allah should accept the prayer and steadfast standing. This picture was photographed today [Tuesday] in al-Quds [Jerusalem], in the Wadi al-Rababa [Gey ben Hinom], in the Silwan village. These are the neighbors of al-Aqsa, and for that reason they are standing in front of the bulldozer in order to protect their land from settlements and Judaization. For that reason, Allah should accept their prayers and steadfast perseverance.
3. The East Jerusalem journalist and photographer Ahmed Abu-Sabih, who was released from an arrest that was prolonged for two months, writes: “Within each Palestinian, there is a post that they don’t know how to write so that they won’t be arrested. Smiling emoji.”
4. A report regarding an assault on a bus driver from Jabel Mukaber: “The young man Nur A-din Shakirat from Jabel Mukaber was attacked by settlers during his work in the area of Gush Etzion. They hit him, sprayed him with tear gas and shot at his bus last night. We wish him a full recovery.”
5. The court of the Israeli occupation sentenced the young Makdasi (Jerusalemite) lion, Arabi Sadek Gith, to an active prison term of one year. It should be mentioned that he hasn’t reached the age of fifteen yet.
6. The security forces of the occupation summoned the journalist Kirstin Rinawi from Palestine Television in al-Quds, for an investigation in the police station in the Russian Compound.
7. On Friday morning, the demolition of the Makdasi (Jerusalemite) resident’s house, Walid Au-Adham, was completed in Jabel Mukabar, following the Israeli occupation municipality’s decision. It is important to note that this house was standing for more than 19 years.
8. “My photography equipment, which includes cameras, a stand, a computer, a camera stand, a drone, and cell phones for which I have documents, and some government permits, diplomas, and passports are still confiscated for ten days!! For what reason??? I don’t know. This caused me much financial loss. Who will compensate me?! Or stand on my side?! Many human rights organizations did not want to help me retrieve my belongings! Human rights and civil liberty organizations evaded the cause. The lawyer that was commissioned by the Palestinian prisnors club, everyone knows his name because he takes care of most cases in al-Quds (Jerusalem), took his time and then avoided the case! So I hired a private lawyer. The media hasn’t done its job in most agencies that we thought would support us in al-Quds.!! My arrest went on for 7 hours, my hands and legs were cuffed!! Why!? I want my rights and my belongings, and to be compensated for my losses.”
9. Pictures: Sur Baher, The Makdasi [Jerusalemite] resident Mohammad Jibril Amirah demolishing his one home with his own two hands due to a decision made by the Jerusalem municipality.

10. Earlier, the occupation arrested the head of guards, Zinat abu-Sabich, in the al-Aqsa yard, as well as the clerk of guards Omran al-Ashab.
11. “They waited until I completed building the house, and then demolished it. Before they left, they gave me a warrant to pay the municipality occupation in order to cover the price of demolition.” Ghassan Shakirat, 24 years old, about to get married, the occupation forces demolished his house this morning.
12. The kid Ahmed Dwabsha. A new photo of the kid Ahmed Dwabsha, whose family members were killed as martyrs in a fire caused by settlers. Ahmed was burnt in his whole body and left alone since 2015.
13. The stand that supports several families: The occupation confiscated a tea and coffee stand in the old city of occupied al-Quds (Jerusalem), that belongs to the a-Shawish family claiming that they don’t have a license. It should be noted that this stand has been around for 53 years.
14. The court hearing of Miss Aiman al-Awar, 45 years old, was postponed to 7/12/2020. She was arrested on 17/6/2020 in her house in Silwan village. She suffers from chronic illnesses and is currently in the Damon jail.

S1.3 Baseline Survey

In this section, we report all items we collected in our survey.

Demographics

- B1 Gender
- B2 Age
- B3 Religion
- B4 Religiosity
- B5 Ethnicity
- B6 Jerusalem resident?
- B7 Hebrew/Arabic proficiency
- B8 Ideology (Right-Left scale)

Prejudice

- B9 Feeling Thermometer (Foreign workers / Left-wing supporters / Right-wing supporters / Jews in general / Ultra-Orthodox Jews / Jewish immigrants / Arabs)

Perspective Taking and empathy

- B10 How well would you say the following statements describe you, where “1” does not describe you at all and “4” describes you very well:
 - (a) It is important try to understand ultra-Orthodox Jews by imagining their feelings, suffering, or thoughts
 - (b) It is important try to understand Arabs by imagining their feelings, suffering, or thoughts

- (c) Even if I disagree with ultra-Orthodox Jews, it is important to try to think of reasons why that group takes a different point of view
- (d) Even if I disagree with Arabs, it is important to try to think of reasons why that group takes a different point of view.

Social media and news consumption

- B11 How much time do you spend on Facebook on an average day?
- B12 Do you agree or disagree that exposure to diverse points of view on social media is valuable?
- B13 How often do you see news or news headlines on Facebook?
- B14 Thinking about the news you see on Facebook, do you prefer sources that share/challenge your point of view/ do not have a particular point of view?

S1.4 Endline Survey

Facebook use

- E1 Do you use Facebook for any of the following reasons? (Shop / Search for a job / Play games / Meet new people / Other)
- E2 Do you feel you are (Spending too much time on Facebook / Spending just enough time on Facebook / Spending too little time on Facebook)?

Prejudice

- E3 Feeling thermometer (0 to 10) with respect to left-wing party supporters
- E4 Feeling thermometer (0 to 10) with respect to right-wing party supporters
- E5 Feeling thermometer (0 to 10) with respect to Jews
- E6 Feeling thermometer (0 to 10) with respect to Arabs
- E7 Do you agree or disagree: “Most Arabs in Jerusalem want to live in peace.” (4 point scale)

Interest in outgroup media

- E8 Do you agree with the statement: “Exposure to diverse points of view on social media is valuable?” (4 point scale)
- E9 Do you agree with the statement: “I would benefit from more exposure to news about Arab life in East Jerusalem?” (4 point scale)

Empathy and perspective-taking

- E10 “It is important to try to understand Arabs by imagining their feelings, suffering, or thoughts.” (4 point scale of alignment/misalignment with personal views)
- E11 “Even if I disagree with Arabs, it is important to try to think of reasons why that group takes a different point of view.” (4 point scale of alignment/misalignment with personal views)

E12 Would you agree or disagree: “Residents of East Jerusalem face more difficult problems in their daily lives than residents of West Jerusalem.” (4 point scale)

Policy preferences

E13 Do you support dividing Jerusalem into two cities - one Jewish and one Arab? (Yes/No)

E14 Do you think that Jerusalem municipality should: (Give priority to the needs of its Jewish residents over others living in the city / Give priority to the needs of its Arab residents over others living in the city / Give equal priority to the needs of its Jewish and Arab residents)?

Humanization

E15 To what extent are east Jerusalem residents rational and logical (1-7)

E16 To what extent are east Jerusalem residents refined and cultured (1-7)

E17 To what extent are east Jerusalem residents Lacking self-restraint, like animals (1-7)

E18 To what extent are east Jerusalem residents Superficial, lacking in depth (1-7)

E19 On a scale of 1-6, where 1 means “very different from one another” and 6 means “very similar to one another”, please indicate how different or similar Arabs living in Jerusalem are to each other, with regards to intellect

E20 On a scale of 1-6, where 1 means “very different from one another” and 6 means “very similar to one another”, please indicate how different or similar Arabs living in Jerusalem are to each other, with regards to morality

Openness to outgroup experiences

E22 How interested would you be in the following online experiences, where “1” means not interested at all and “4” means very interested:

- (a) A virtual tour of Arab neighborhoods in East Jerusalem
- (b) An online lecture about life in East Jerusalem
- (c) A video showcasing the life of a Arabs resident of East Jerusalem

S1.5 Ethics

We carefully considered ethics when developing our experimental design. First, during the process of recruitment for our study, subjects were informed when asking for their consent that they would be taking part in an experimental study in partnership with a Jerusalem-based NGO whose mission is to connect members of different communities in Jerusalem through shared news about daily life in the city. During the consenting process, subjects were told in a direct way that the study “might expose you to information about local news and events in Jerusalem via Facebook” and that the researcher “will consider how you react to different prompts on Facebook,” such as “how you respond to a prompt inviting you to follow specific pages or RSVP to events on Facebook.” The translation of our consent form is presented in Section S1.5.1 of the appendix.

Second, while the ethics of Facebook advertisements are a subject of current debate among social scientists and practitioners (Guess, 2021), receiving advertisements is part of the standard experience for Facebook users, who see many ads and sponsored posts each day in their newsfeeds. These ads span a wide range of topics, from products advertised by retail stores and pharmaceutical companies, to advertisements from political campaigns,

dating apps, charities, and religious organizations soliciting donations and recruiting members. Facebook users are generally aware that advertisements target individuals based on their demographic characteristics, previous purchasing habits, online browsing activity, and other metadata. It is common to receive advertisements from the same sources for days, weeks, or months at a time. The experience of receiving our sponsored treatment posts is therefore well within the normal range of Facebook user experiences. Furthermore, if people wish to opt out of receiving advertisements from a certain source (such as our treatment page), they are able to do so by adjusting the settings in their Facebook profiles. In practice, we did not see evidence of study participants opting out of treatment, but they were free to do so. Because we obtained informed consent at the outset and subjects had the opportunity to opt out of treatment and the study at any time, we were able to respect their autonomy throughout the experiment.

Third, the aim of our partner organization's work is to reduce intergroup prejudice by translating and disseminating outgroup-focused content online, and this was our own hope as researchers. But it is important to acknowledge that several recent studies suggest that diversifying social media environments might elicit negative online responses (Bail et al., 2018). For that reason, evaluating our partner organization's activity in light of the potential for backlash offers important insights that can inform the organization's future activities. With this possibility in mind, we took several steps to minimize the potential for harm, including the spread of online hate speech. First, given disparities in power and resources across communities within Jerusalem, we chose to limit our study to Jewish residents of Jerusalem, rather than exposing members of the more vulnerable community of Palestinians in East Jerusalem to content they might prefer to avoid. Second, we chose to disable public viewing of user comments on 0202 treatment posts and on posts inviting respondents to participate in post-treatment behavioral measures. As such, we strove to conduct this experiment in as naturalistic a way as possible, while controlling any potential public backlash.²

S1.5.1 Informed Consent Form

Description of the research

You are invited to participate in a research study about online information and intergroup relations implemented by researchers at [REDACTED]. You have been asked to participate because we are interested in learning how you respond to information about local news and events in Jerusalem online. The purpose of the research is to better understand whether sharing information about other groups in Jerusalem affects intergroup relations. This study's sample includes residents of Jerusalem.

What will my participation involve?

If you decide to participate in this research, you will be asked to fill out this brief survey, and you will be invited to participate in a follow up survey in several weeks. Between surveys we may expose you to information about local news and events in Jerusalem via Facebook. In addition, after the first survey, we will consider how you react to different prompts on Facebook. Specifically, we may check to see how you respond to a prompt inviting you to "follow" specific pages or RSVP to events on Facebook. These prompts will be administered by [Partner organization]. You can choose to fully ignore or engage with these different Facebook prompts which are administered by [Partner organization] as you wish. Participation in this first survey will take about five minutes to complete. Several weeks from now, we will send you an invitation to participate in another survey which will take between five and ten minutes per survey. In total, your participation will require no more than 15 minutes for all surveys.

Are there any risks to me?

²We received IRB approval from [REDACTED].

Risks associated with this study include confidentiality breach. In addition, you may find parts of the surveys we distribute as upsetting, and therefore you can feel free to skip questions you feel uncomfortable answering.

Are there any benefits to me?

We don't expect any direct benefits to you from participation in this study.

Will I be compensated for my participation?

If you participate in this study, and complete the follow-up survey, you will receive a chance to win one of several prizes (an iPhone, or one of ten 100NIS gift cards from Tav Ha-Zahav which can be used in many stores across Israel) in a raffle we will conduct. The research team will conduct the raffle on December 25, 2020. The research team will distribute 11 prizes (1 iPhone, and ten 100NIS gift cards) between 10,000 possible study participants selected at random, using a computerized random selection procedure. We will notify study participants if they won or didn't win a prize via email and Facebook message, and will deliver all prizes to winners via Israeli mail by January 20, 2021.

How will my confidentiality be protected?

This study is confidential. Neither your name or any other identifiable information will be published. Only our research team will have access to all data collected in this study. In order to enter the raffle described above, you will need to provide your full name and email address. This information will never be published, and it will only be used to contact you if you win one of the raffle prizes. Coded data will be shared between researchers on the study team, but all research data will only be used for this study and not retained for future use.

Whom should I contact if I have questions?

You may ask any questions about the research at any time. If you have questions about the research after you leave today you should contact [Redacted] at the following email address: [Redacted]. If you are not satisfied with response of research team, have more questions, or want to talk with someone about your rights as a research participant, you should contact the Education and Social/Behavioral Science IRB Office at 608-265-4312. If you decide not to participate or to withdraw from the study, you may do so without penalty. If you agree to participate in the study – please select "I agree to participate".

S1.6 Attrition

As noted in the main text, not all treated respondents fully participated in our endline surveys. Such attrition can pose threats to our estimates of attitudinal measures, but not to our behavioral measures where we successfully collected outcomes for all participants. In this section, we empirically assess several concerns relating to attrition in our endline survey. First, in Table S2, we demonstrate that participation in our baseline and endline surveys is not affected by treatment status. Indeed, assignment to treatment does not affect participation in our baseline survey (Pre), endline survey (Post), baseline and endline survey (Pre-Post). Similarly, treatment assignment does not increase response rate to our main survey outcomes—Arab feeling thermometer (Therm), Empathy, Peace,

or Preference for Exposure to outgroup content (Exposure).

Table S2: Correlation of Treatment with Non-Response to Surveys and Specific Items

Outcome: Non Response = 0, Response = 1							
	Pre	Post	Pre-Post	Therm	Empathy	Peace	Exposure
Treatment	-0.001 (0.011)	0.002 (0.012)	-0.009 (0.011)	0.001 (0.011)	-0.006 (0.010)	0.001 (0.011)	0.000 (0.011)
Num.Obs.	6153	6153	6153	6153	6153	6153	6153
R2	0.256	0.018	0.174	0.017	0.015	0.016	0.016

* p < 0.05

Additionally, in Table S3, we focus on respondents who reported demographics in our baseline survey and consider the extent to which reported demographics predict selection into endline survey (Post) or responding to our main outcomes of interest. We find that men were more likely to select into our endline survey, and older respondents were less likely to select into our endline survey. However, religiosity, and pre-treatment affect towards Palestinians do not predict selection into our endline survey.

Table S3: Correlation of Covariates with Non-Response to Surveys and Specific Items

Outcome: Non Response = 1, Response = 0					
	Post	Therm	Empathy	Peace	Exposure
Male	-0.045* (0.019)	-0.037* (0.018)	-0.034* (0.017)	-0.036* (0.018)	-0.031 (0.018)
Age	0.019* (0.006)	0.016* (0.005)	0.013* (0.005)	0.017* (0.005)	0.015* (0.005)
Religiosity	0.007 (0.007)	0.006 (0.007)	-0.003 (0.006)	0.007 (0.007)	0.002 (0.007)
Arab Therm	0.006 (0.004)	0.007 (0.004)	0.005 (0.003)	0.006 (0.003)	0.007* (0.004)
Num.Obs.	2369	2369	2369	2369	2369
R2	0.007	0.007	0.006	0.007	0.010

We focus on respondnets who reported covariates in the baseline survey.

* p < 0.05

Importantly, the evidence reported in Table S2 suggests that attrition is unrelated to respondents treatment status. Therefore, we interpret the primary estimates of attitudinal effects reported in Figure 6, as the Sample Average Treatment Effect (SATE) among always responders (Gomila and Clark, 2020). To the extent that covariates that predict attrition (e.g. age and gender), also moderate treatment effects, our estimates of the SATE might differ from estimates of the ATE among the full sample. Therefore, we further consider the potential moderating effects of age and

Table S4: Moderating Effect of Age on Primary Outcomes

	Therm	Empathy	Peace	Support Exposure	Exposure Behavior
Treatment	0.163 (0.252)	-0.008 (0.103)	0.056 (0.093)	-0.131 (0.072)	-0.001 (0.006)
Age	0.249 (0.131)	0.005 (0.049)	0.176* (0.042)	-0.092* (0.044)	0.026* (0.008)
Treat*Age	-0.156 (0.155)	-0.034 (0.059)	-0.144* (0.050)	0.104* (0.050)	-0.013 (0.008)
Num.Obs.	617	524	599	604	2767
R2	0.134	0.178	0.185	0.063	0.040

* p < 0.05

Table S5: Moderating Effect of Gender on Primary Outcomes

	Therm	Empathy	Peace	Support Exposure	Exposure Behavior
Treatment	0.394 (0.282)	0.146 (0.133)	-0.011 (0.122)	0.043 (0.103)	-0.006 (0.008)
Male	0.935* (0.338)	0.310* (0.148)	0.155 (0.139)	0.168 (0.113)	0.019 (0.012)
Treat*Male	-0.584 (0.396)	-0.268 (0.168)	-0.075 (0.156)	-0.114 (0.131)	-0.013 (0.013)
Num.Obs.	625	532	610	614	2919
R2	0.134	0.184	0.170	0.063	0.006

* p < 0.05

gender in Tables S4-S5.³ Generally speaking, we do not find strong evidence for treatment effect heterogeneity by gender and age. Indeed, across all models, the moderating effect of gender is imprecisely estimated, whereas age appears to moderate the effects of our treatment on support for peace and interest in outgroup exposure. Given these results that point to limited moderation, we encourage readers to interpret the findings reported in the main text as the SATE among always responders.

S1.7 Disaggregated Results by Treatment Type

In this section, we consider a series of pre-registered analyses, examining the effects of exposure to different *types* of outgroup social media content. Specifically, we consider the effects of three sub-treatments. 1) Exposure to conflict-related content focused on personal perspectives. 2) Exposure to conflict-related content focused on communal perspectives. 3) Exposure to organic content created by our partner organization, which includes both personal and communal posts, focusing

³Note that we obtained covariate measures only for a subset of study participants. Thus our sample size for these additional analyses is relatively restricted, and we encourage readers to interpret these results with a grain of salt.

on conflict and non-conflict related issues.

In line with our main results, we show in Figure S4 that when compared against the control group, all treatment types have an imprecisely estimated effect on our attitudinal measures, with the exception of non-personal posts that moderately reduce study participants' interest in future exposure to outgroup content. Given these consistent patterns, we focus our main analyses in Figure 6 on the comparison of our pooled treatment against the control group.

Interestingly, when comparing the effects of personal and non-personal posts, we find some suggestive evidence that personal content is more conducive to improving intergroup relations. Specifically, respondents assigned to personal posts are more likely to report that exposure to outgroup perspectives online is important and display higher levels of empathy towards Palestinians. Moreover, those respondents report higher scores on the Arab feeling thermometer (although our estimate for this outcome is somewhat imprecisely estimated). Based on the various comparisons reported in Figure S4, we interpret these findings to suggest that our increase in empathy towards Arabs (in the personal vs. non-personal comparison) is likely driven by very modest positive effects of personal content and modest negative effects of non-personal content. That being said, turning to the behavioral measures, we see that all treatments had a negative effect on engagement relative to the control group, although not all were statistically significant, likely due to decreased sample size in these restricted comparisons.

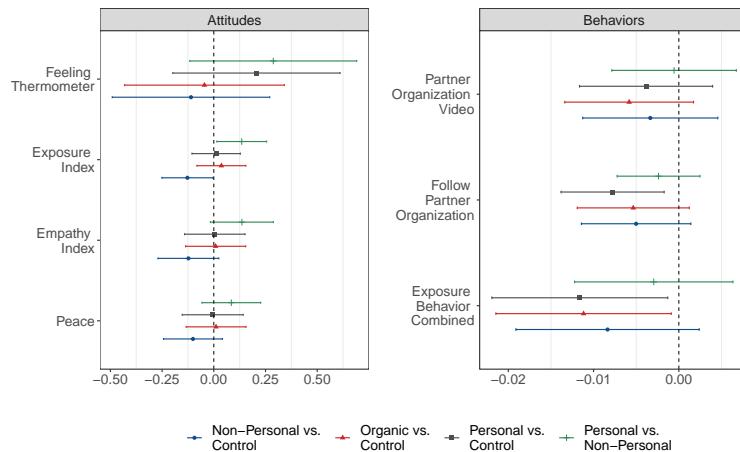


Figure S4: Treatment Effects Disaggregated by Treatment Type – Each point estimate is extracted from an OLS regression with block fixed effects, where we regressed our outcomes over a treatment indicator (e.g., control vs. pooled, control vs. personal, control vs. non-personal, personal vs. non-personal).

S2 Study 2 Supplementary Materials

S2.1 Survey Instrument

In Study 2, we fielded a survey among a sample of Israeli survey respondents. Our main objective was to capture a behavioral measure of intergroup avoidance, document its prevalence among Jewish Israeli survey respondents, and consider its correlates and potential explanations. Below we describe the main items collected in our survey.

1. Informed Consent
2. Attention Checks [Failing attention resulted in survey termination]
3. Demographics
 - (a) Age
 - (b) Gender
 - (c) Locality
 - (d) Religiosity
 - (e) Languages spoken?
 - (f) Ideology (7 point scale)
4. Social Media Usage
 - (a) Usage Frequency
 - (b) Agree exposure to outgroups online is positive
5. Intergroup Attitudes
 - (a) Important to take outgroup perspectives
 - (b) Feeling thermometers (Arabs, Foreign workers, Ultra-Orthodox Jews)
6. Choice task.
 - (a) Respondents are told that they will be asked to read a number of Facebook posts. They are then instructed to select posts written by specific groups from Jerusalem, including secular Jewish residents of Jerusalem, Religious Jewish residents of Jerusalem, Ultra-Orthodox residents of Jerusalem, or Palestinian residents of Jerusalem. Respondents were randomized into one of two choice tasks in which they were forced to select posts written by a single group or alternatively select a combination of posts written by various groups.
 - (b) Explain selection (open/closed response)
 - (c) If Palestinian posts are not selected: Explain Palestinian avoidance (open/closed response).
 - (d) Respondents read two posts and report whether they learned new information from the post.

S2.2 Correlates of Avoidance

In Figure S5, we extent the correlational analyses from the main text, and report patterns of inter-group avoidance among various subgroups of interests. In Figure 8, we report the various reasons that respondents provide for avoiding engagement with Palestinian Facebook posts in our survey. In Figure S6, we aggregate those reasons into four overarching motivations of avoidance (Cognitive dissonance, Cognitive Lethargy, Hopelessness, and Naive Realism), and consider their social and demographic correlates.

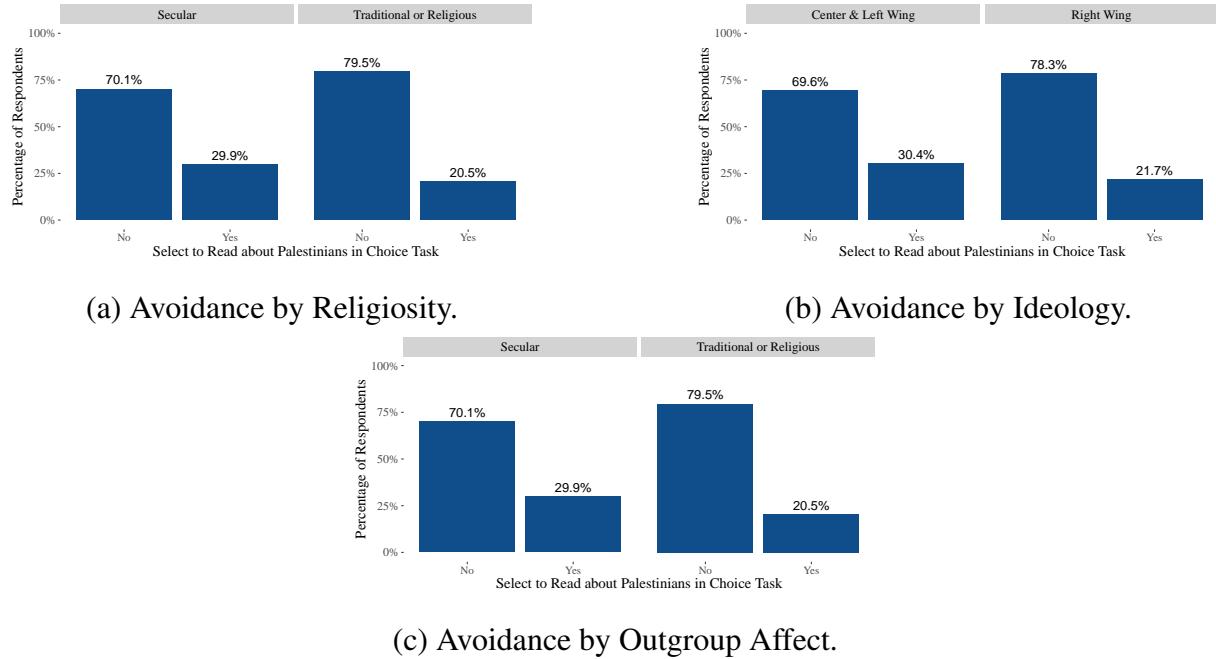


Figure S5: Average Outgroup Avoidance Among Different Subsamples. This figure reports the distribution of our behavioral measure of avoidance (from Figure 7) amongst subsets of our sample.

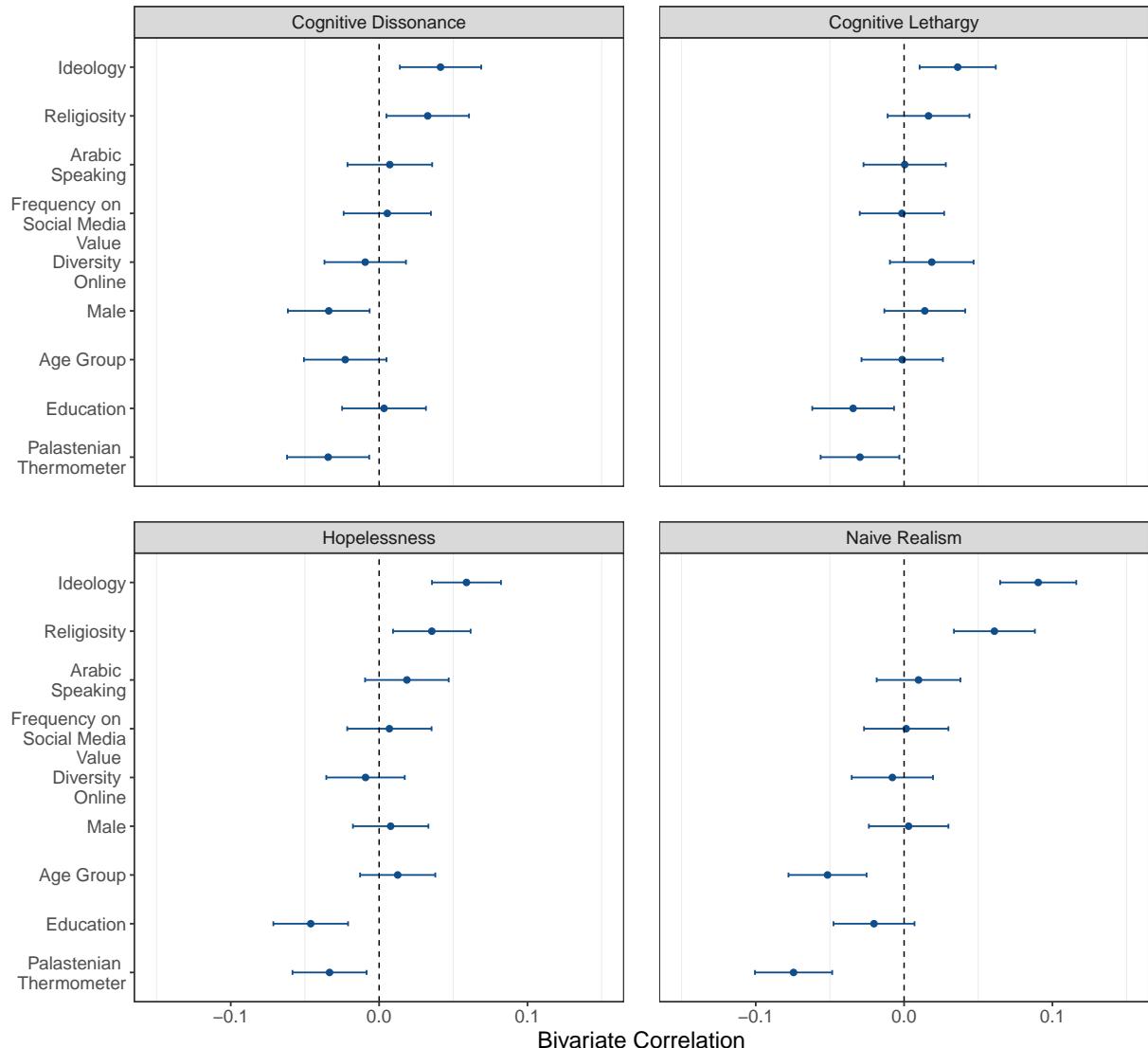


Figure S6: Correlates of Avoidance Reasons.

S3 Study 3 Supplementary Materials

S3.1 Survey Instrument

The main objective of Study 3 was to examine whether a set of theoretically informed treatments could reduce Jewish Israeli survey respondents' intergroup avoidance when completing our choice task (initially implemented in Study 2). To do so, we fielded a final survey. Below we report the items we collect as part of this final survey.

1. Informed Consent
2. Attention Checks [Failing attention resulted in survey termination]
3. Demographics
 - (a) Age
 - (b) Gender
 - (c) Locality
 - (d) Religiosity
 - (e) Languages spoken?
 - (f) Ideology (7 point scale)
4. Social Media Usage
 - (a) Usage Frequency
 - (b) Agree exposure to outgroups online is positive
5. Intergroup Attitudes
 - (a) Important to take outgroup perspectives
 - (b) Feeling thermometers (Arabs, Foreign workers, Ultra-Orthodox Jews)
6. Treatment assignment.
 - (a) Affirmation, malleability, and intellectual humility treatments are implemented prior to the choice task. All other treatments are embedded within the choice task.
 - (b) Prior to the choice task all respondents complete survey items measuring respondents' level of self-affirmation, perceptions of group malleability, and intellectual humility. We use these measures as manipulation checks to capture the extent to which our treatments successfully shape the psychological constructs they target.
7. Choice task.

- (a) Respondents are told that they will be asked to read a number of Facebook posts. They are then instructed to select posts written by one of four specific groups from Jerusalem, including secular Jewish residents of Jerusalem, Religious Jewish residents of Jerusalem, Ultra-Orthodox residents of Jerusalem, or Palestinian residents of Jerusalem.
- (b) Explain selection (open/closed response)
- (c) If Palestinian posts are not selected: Explain Palestinian avoidance (open/closed response).
- (d) Respondents read two posts and report whether they learned new information from the post.

S3.2 Placebo Analysis

In our pre-analysis plan for Study 3, we pre-registered additional analyses in which we would compare our main treatments with a placebo condition in which respondents answered a set of innocuous questions prior to engaging in the choice task. We report these additional analyses in Figure S7. Overall, our results remain consistent with our main analyses reported in the main text. However, when benchmarking conditions against a placebo, we find that fact-checking and ingroup endorsements have positive and precisely estimated effects. Importantly however, these effects are still substantively small when compared to the effects of the monetary incentive treatment.

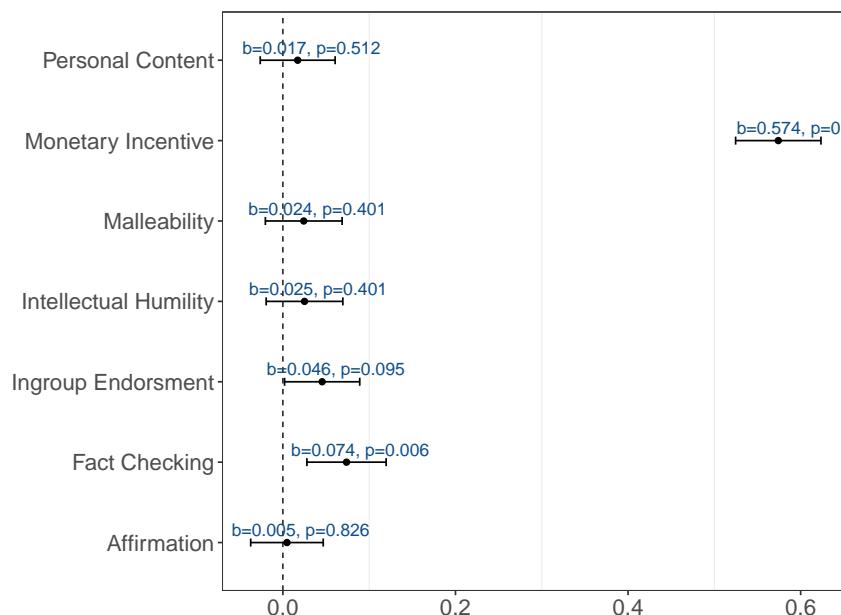


Figure S7: This Figure plots ATEs from Study 3 using the placebo group as the reference category.

S3.3 Manipulation Check

Three of our treatments in Study 3 were designed to target and shape psychological dispositions relating to perceptions of group malleability, intellectual humility, and self-affirmation. Our survey included batteries of related survey items, capturing these psychological constructs. We use these survey items, administered to all respondents, as manipulation checks. In Table S6, we demonstrate that our treatments increased intellectual humility by about 0.13SDs and perceptions of group malleability by 0.28 SDs. That said, the validated treatment we used to increase self-affirmation did not successfully achieve its goal. In other words, the self-affirmation treatment had a very small, imprecisely estimated negative effect on self-affirmation. These additional analyses suggest that at least with regards to intellectual humility and group malleability, the null results we report in Figure 9 are not an artifact of unsuccessful treatment.

Table S6: Average Treatment Effect on Psychological Constructs

	Affirmation Index	Humility Index	Malleability Index
Affirmation Treatment	-0.026 (0.026)		
Int. Humility Treatment		0.074* (0.033)	
Malleability Treatment			0.150* (0.029)
Num.Obs.	4396	4375	4359
R2	0.000	0.001	0.005
Control Mean	4.107	4.107	4.107
Control SD	0.534	0.534	0.534

* p < 0.05

One concern with our analyses that focus on shifting psychological dispositions relating to perceptions of group malleability, intellectual humility, and self-affirmation is that our main estimates represent a conservative ITT. To further substantiate our null, we estimate a series of 2SLS regressions. In these analyses, which we refer to as an estimation of treatment effect on the treated (TOt), we employ treatment status as an instrument for endogenous measures of the psychological constructs under investigation. The results in Table S7, show that none of the treatments increased survey respondents' selection of Palestinian Facebook posts in our choice task. Indeed, we find null effects for our affirmation and intellectual humility treatments and a negative effect of the malleability treatment. Taken together, these analyses further emphasize our key insight from Study 3, that it is incredibly challenging to reduce intergroup avoidance with light touch treatments.

S4 Sample Characteristics

In this section, we report descriptive statistics for our three primary studies. Table S8, shows the age, gender, and religiosity distribution of respondents from our Facebook field experiment baseline survey (who reported covariate data). Note that our first study focused on Facebook users

Table S7: TOT Estimates for Study 3 Psychological Treatments

Outcome: Select Palestinian Post (0/1)			
	1	2	3
Affirmation Treatment	3.439 (3.269)		
Int. Humility Treatment		-0.928 (0.479)	
Malleability Treatment			-0.496* (0.160)
Num.Obs.	4294	4294	4294
R2	-19.351	-2.464	-0.587
Control Mean	0.155	0.155	0.155
Control SD	0.362	0.362	0.362

* p < 0.05

based in Jerusalem. With that in mind, Table S8 demonstrates that our sample is mostly comprised of young respondents, and over-represents non-secular respondents, as well as men, relative to their size in the Israeli population. Clearly, given our sampling strategy in Study 1, we focus on a convenience sample that does not resemble the general Jewish-Israeli population in Jerusalem, or the country as a whole. However, to address this limitation, we turn to examine patterns of avoidance among more representative survey samples in Studies 2-3.

In Tables S9-S10 we report the distribution of age, gender, and religiosity among our survey samples from study 2-3. We further benchmark the distribution of these covariates against official statistics of the Jewish internet using population in Israel, as provided by iPanel. These tables demonstrate that in both surveys, our samples closely resemble our target population. In contrast to our convenience sample drawn from the population of Jerusalem Facebook users in Study 1, our samples for Studies 2-3 resemble the Jewish-Israeli internet using population in terms of key covariates.

Table S8: Descriptive Statistics Facebook Experiment

Variable	Value	Proportion
Age	18-29	0.567
Age	30-39	0.135
Age	40-49	0.087
Age	50-59	0.083
Age	60-69	0.081
Age	70-79	0.032
Age	Prefer not to Answer	0.011
Age	80+	0.004
Gender	Male	0.552
Gender	Female	0.432
Gender	Prefer not to Answer	0.013
Gender	Other	0.003
Religiosity	Secular	0.327
Religiosity	Religious	0.272
Religiosity	Traditional	0.261
Religiosity	Ultra-Orthodox	0.087
Religiosity	Other	0.036
Religiosity	Prefer not to Answer	0.017

Table S9: Descriptive Statistics Study 2

Variable	Value	Proportion	Ipanel prop.
Age	35-44	0.216	0.21
Age	25-34	0.213	0.22
Age	45-54	0.178	0.17
Age	18-24	0.165	0.16
Age	55-64	0.133	0.13
Age	65-70	0.095	0.11
Gender	Female	0.502	0.51
Gender	Male	0.498	0.49
Religiosity	Secular	0.540	0.52
Religiosity	Traditional	0.283	0.31
Religiosity	Religious	0.145	0.14
Religiosity	Ultra-Orthodox	0.032	0.03

Table S10: Descriptive Statistics Study 3

Variable	Value	Proportion	Ipanel prop.
Age	35-44	0.222	0.21
Age	25-34	0.214	0.22
Age	45-54	0.167	0.17
Age	18-24	0.156	0.16
Age	55-64	0.129	0.13
Age	65-70	0.112	0.11
Gender	Female	0.503	0.51
Gender	Male	0.497	0.49
Religiosity	Secular	0.522	0.52
Religiosity	Traditional	0.326	0.31
Religiosity	Religious	0.125	0.14
Religiosity	Ultra-Orthodox	0.027	0.30

S5 Pre-Registered Expectations & Findings Summary

Table S11: Study Findings and Hypotheses

Study/Figure	Pre-Reg. Questions or Hypotheses	Findings	Expected	Direction
Study 1: Figure 6 (left-hand panel)	Exposure to 0202 content will improve [worsen] attitudes and policy preferences toward Palestinians.	Null results	NA	(bi-directional hypothesis)
Study 1: Figure 6 (right-hand panel)	Exposure to 0202 content will cause Jews to seek out more [less] information and news about Palestinians.	Exposure to 0202 content caused Jews to seek out less information and news about Palestinians.	NA	(bi-directional hypothesis)
Study 2: Figure 7a	What share of survey respondents select to read Facebook posts written by Palestinians?	A majority of respondents avoid Palestinian Facebook posts. In the unconstrained task, only 32% engaged with Palestinian content. In the constrained task, only 18% engaged.	NA	(exploratory analysis)
Study 2: Figure 7b	What demographic variables predict selecting to read Facebook posts written by Palestinians?	Israelis who have higher ratings of Palestinians on a feeling thermometer and men were more likely to engage. Religious and right-wing respondents were less likely to select Palestinian posts.	NA	(exploratory analysis)
Study 2: Figure 8	What explanations do respondents provide for avoiding Palestinian Facebook posts?	Most prevalent motivations: "will feel uncomfortable," "will feel anger," "reading will not change anything," "no patience for Palestinian posts," and "Palestinian posts are not based on facts."	NA	(exploratory analysis)

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Study/Figure	Pre-Reg. Questions or Hypotheses	Findings	Expected Direction
Study 3: Figure 9b	We hypothesize that each of the following interventions will increase Israelis' willingness to consume outgroup social media content. No a priori expectations regarding relative effectiveness.	Economic incentive was effective. Fact-checking had a small positive effect. Other interventions showed null effects.	Yes for economic incentive and fact-checking, nulls for others.