



Together From Afar: Introducing a Diary Contact Technique for Improving Intergroup Relations

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Methods & Analyses

Additional Information About the Semi-Structured Interviews

Participants

Eighteen American participants (11 women, seven men; $M_{\text{age}} = 25.78$ years) and 12 Pakistani participants (all men; $M_{\text{age}} = 28.82$ years) were recruited to participate in the experiment through a combination of online postings (via Craigslist), paper flyers, and word of mouth. American participants were recruited from Maryland. Pakistani participants were recruited from Islamabad, Rawalpindi, Lahore, Sahiwal, and Abbottabad.

Exposure to out-group members for most participants had come only through media and news, although a small number of participants in each sample had direct contact. In the United States, participants with direct contact had either classmates, professors, or coworkers from the Middle East. In the Middle East, participants with direct contact had either traveled or studied abroad.

Interview Method

Semi-structured interview questions were created on the basis of information from a focus group of researchers and consultants from the United States and Pakistan. Questions were developed specifically to

Table 1. Interview questions

Question category	Examples
<i>General questions</i>	<p>"Have you interacted with anyone who was from the Middle East [United States]?"</p> <p>"Do you watch TV shows, movies, news about the Middle East [United States]?"</p> <p>"What is your overall impression of Middle Easterners [Americans] based on what you have been exposed to?"</p>
<i>Metaperceptions</i>	<p>"What do you think Middle Easterners [Americans] think of people in the United States [Pakistan]?"</p> <p>"Are there any important aspects of life in the United States [Pakistan] that people in the Middle East [United States] might overlook when drawing conclusions about people in these areas?"</p>
<i>Personal perceptions of out-group</i>	<p>"What images come to mind when you think of people from the Middle East [United States]?"</p> <p>"What adjectives would you use to describe people from the Middle East [United States]?"</p> <p>"What positive/negative traits do you think of when you think about Middle Easterners [Americans]?"</p>
<i>In-group perceptions of out-group</i>	<p>"How do you think people in the United States [Pakistan] perceive Middle Easterners [Americans] generally? Do you think this is accurate?"</p> <p>"How would the average American [Pakistani] describe a typical person from the Middle East [United States]?"</p> <p>"What are some positive/negative traits or habits that your friends and neighbors associate with people from the Middle East [United States]?"</p>
Perceptions of differences and similarities	<p>"How are people in the Middle East [United States] different from people in America [Pakistan]? How are they the same?"</p> <p>"Are there differences between how you view Middle Eastern [American] governments and the Middle Eastern [American] people that they represent?"</p>

Note. In Table 1, *Middle East* is sometimes used and *Pakistan* is sometimes used. This is because the term *Middle East* was used in interviews in the United States. The term *Pakistanis* was used in interviews in Pakistan.

minimize the possibility of a social desirability bias, and they emphasized the importance of honesty and the confidential nature of the study. Questions were organized around themes of (a) cultural metaperceptions, (b) participants' perceptions of out-group members, (c) how participants thought their in-group perceived the out-group, and (d) participants' perceptions of differences and similarities between themselves and out-group individuals. Each question, nested within its theme, is presented in Table 1. Since the interviews were semi-structured, individual interviews contained some follow-up questions that do not appear in Table 1.

Our American focus groups used the label *Middle Easterners* rather than *Pakistanis*. Pakistan is in South Asia, not the Middle East. However, we found that, in a survey that we conducted of 502 Americans, 71.6% of

participants believed that Pakistan was a Middle Eastern nation. We also worried that asking specifically about Pakistan would induce demand and social desirability biases that would lead Americans to withhold their stereotypes of Pakistanis. Participants may feel less inhibited and less insecure sharing stereotypes they held about the Middle East as a region. To confirm that the stereotypes that Americans generated about Middle Easterners also translated to Pakistanis, we conducted a follow-up survey in which we asked a sample of online American participants ($M_{age} = 36.91$ years, $SD = 10.06$; 56 men, 41 women) to read a subset of representative quotes that our focus groups generated (quotes that we used in this survey are starred in these supplemental materials) and indicate whether these quotes reflected stereotypes that Americans have about Pakistanis. On average, 76% of participants believed that these quotes

reflected American stereotypes of Pakistanis. To put this percentage in perspective, we mixed in quotes that reflected stereotypes about Americans (generated during the Pakistani focus groups) throughout our survey. Only 30% of participants indicated that these American stereotypes reflected stereotypes that Americans had of Pakistanis. These results offered strong evidence that Americans do indeed ascribe Middle Eastern stereotypes to Pakistanis.

Interview Transcription

In the United States, the interviews were not recorded, but researchers took detailed notes of participants' responses. In Pakistan, the interviews were recorded, transcribed, and translated into English. Interview notes and transcripts were analyzed to determine the stereotypes frequently generated by each group.

American Participants

In the United States, current perceptions of Middle Easterners centered on stereotypes about religion, women, and family. Most if not all participants mentioned that Middle Easterners valued religion, Islam in particular. Stereotypes about religious importance were both positive and negative. Some Americans saw religious involvement as an indicator of dedication and morality, whereas others thought it indicated extremism and terrorist involvement. When asked how would the average American describe a typical person from the Middle East, one participant said,

*[I] think they would describe a Muslim extremist, long beard, turban, a very terrorist type of appearance. I don't want to say a typical terrorists . . . beard, turban, long flowing tunic, sinister, I guess.

Another common theme among American participants was the belief that Middle Easterners supported the oppression of women. These views were expressed through descriptions of women's wardrobe, patriarchal and Islamic culture, and women's lack of autonomy.

*Women we are completely covered. I can understand they are raised that way and can't get out, but [it] makes me resentful

of a culture that hates women and tries to oppress them and hates other religions.

*Use religion to prevent women from career and education.

But while most American participants felt that the Middle Eastern culture oppressed women, some participants also felt that Middle Easterners were very family oriented:

One of things that stood out the most was the sense of family, strong cultural and social values of family, which resembled my own, which is Italian.

Pakistani Participants

Participants from Pakistan, on the other hand, described Americans as nonreligious and immoral:

*Americans have a religion but they don't practice it, but then religion is a personal and a secondary matter. If they shift from one girlfriend to another then that is how their lifestyle is.

Pakistani participants also saw Americans as overly independent and not family oriented:

*The family members are independent and individualistic. The children get a "free hand" to do whatever they want after 18 years of age. They are short of time so they may have little affection for family . . . the children don't behave well with their parents. They often live separately when they grow up. They have help lines to use and call police upon their parents. They learn self-protection even against their own parents.

Pakistani participants described Americans as ignorant and heavily influenced by the media:

Americans believe in what media shows them. They believe we are terrorists and thieves and all crimes are among us.

Americans are ignorant about the rest of the world.

Pakistanis also described Americans were educated and hardworking, but also felt that Americans had a superiority complex:

*Americans have humanity, but only for themselves. They see themselves as superior.

But despite the negative attitudes generated about each group, participants discussed many important perceptions of similarity. Participants in each country shared the notion that Americans and Middle Easterners are more similar than stereotypes would suggest. Respondents noted that stereotypes were not representative of all group members.

United States: "All have to go to work like [in the] United States. All live under some form of government like Americans. [They] enjoy movies, music, and art, kids go to school like in [the] United States. Watch TV like in America, even though culture is different underlying things are the same."

Pakistan: "Americans quality and quantity of life is very different from ours but other than that they must be human beings like us. They live a life like us but then they have a lot of technology, they think advance, they have a good environment, and they have good manners."

In addition to acknowledging commonalities, all participants thought the media played a big role in stereotype formation and misperceptions. Americans acknowledged that the news and media portray mostly negative images of Middle Easterners, and Pakistanis felt that the American media greatly influenced negative perceptions of their group.

United States: "Depends on the media source. Some portray them as there are good and bad parts of the Middle East just like anywhere else. Some portray Middle Eastern cultures as a whole as a bad thing, like 9/11 and a lot of turmoil with the Middle East. Mostly a negative portrayal.

I don't think it's accurate to portray the entire Middle East as bad people. Should be off an individual bases. [The] whole culture shouldn't be judged off the actions of a subgroup."

Pakistan: "First, I believed what the media portrayed. Earlier, I thought Americans are bad and even Europeans are bad but now I know it's absolutely incorrect. More than 50% are good and they want the government to stop wars. If a few incidents happened, then that doesn't mean the whole nation in majority is bad."

Taken together, these qualitative interviews revealed a variety of negative stereotypes held by Americans toward Middle Easterners and by Pakistanis toward Americans. Unsurprisingly, these stereotypes varied in content across groups. American stereotypes of Middle Easterners featured high aggression, excessive religiosity, and inflexible attitudes, particularly toward areas of moral concern. In contrast, Pakistani stereotypes of Americans were largely concerned with insincerity, cultural ignorance, and immorality, particularly around family values. At the same time, both Pakistani and American participants acknowledged that their knowledge of out-group members was likely inaccurately skewed by the media and lack of contact and familiarity with out-group individuals.

Additional Information About the Intervention

Reliability for Diary Coding

After training the research assistants on how to interpret and apply these codes, we asked both research assistants to code 10% subsets of diary entries, then tested for coding reliability to establish that coders were using our instructions similarly. Coders did not code reliably for the first round of 10% subsets, but they showed acceptable reliability in the second round (see Table 2 in the main article). Therefore, the remaining diaries were divided evenly between coders, who coded them individually.

Additional Measures in the Intervention

Our intervention has three additional measures that we did not analyze:

1. We included open-ended questions regarding participants' attitudes toward the United States and Pakistan. However, participants did not write enough in response to these questions for us to analyze.
2. We included a scale measuring how much media participants consumed over the course of the past month. We considered it possible that media consumption could act as a moderator of our effect, such that it would be especially strong among those who did not consume media, given the stereotyped way that media depicts cultural outsiders. However, we chose not to analyze the three-way interaction of Culture \times Condition \times Media Consumption because we did not have sufficient power.
3. We included an affect misattribution procedure (AMP; Payne, Cheng, Govorun, & Stewart, 2005) in which participants evaluated the positivity or negativity of Chinese pictographs after briefly seeing the faces of (White) American or Pakistani individuals. We were interested in testing whether our intervention affected implicit evaluation of out-group individuals. However, the QRT platform that supported implicit measurement on Qualtrics closed shortly after data collection, making the analysis of these data impossible.

Reliability for Stereotyping Measures in the Intervention

Analyses of stereotype responses revealed significant correlations between the two adjectives measuring Pakistani sociality, $r(198) = .74, p < .001$, and the two adjectives measuring American morality, $r(197) = .38, p < .001$. There were also significant correlations between the statements regarding Pakistanis' personal freedom, $r(197) = .40, p < .001$, and statements regarding Americans' cultural superiority and ignorance, $r(198) = .24, p = .001$. Accordingly, the two items in these four indices were collapsed for all analyses. The resulting Pakistani freedom index was correlated at $r(198) = .40$ with the Pakistani

warmth index, whereas the American morality index was correlated at $r(199) = -.31$ with the American cultural superiority and ignorance index.

Sample Characteristics & Statistical Controls

One American participant provided incomplete responses and was excluded from analyses. Pakistani participants used higher numbers on Likert scale items than did American participants ($M_{sT1} = 3.83$ versus $3.54, M_{sT2} = 3.86$ versus 3.53), $ps < .001$. Therefore, we centered responses within-participant to control for response bias as is customary in cross-cultural research (Gelfand et al., 2011; Walther, 2009). We linearly transformed cultural distance values so that all values were positive (by adding the absolute value of the minimum value), for ease of interpretation in our ANOVA on cultural distance.

Analytic Strategy for the Intervention

Pakistani participants were more likely to identify with a formal religion than were American participants, $\chi^2(1, N = 199) = 52.76, p < .001$, and reported significantly lower subjective income than did American participants, $t(1, 197) = 4.47, p < .001$. We therefore controlled for income and dummy-coded religion in all analyses involving participant country. Since participants started the intervention on different days, we also controlled for start date in all analyses. Participants received a start-date value of $1 - n$, where a value of 1 represented the first day of the intervention and a value of n represented the day that the final participant started the intervention. Our significant results replicated regardless of whether we included these control variables.

We hypothesized that the intervention condition (in-group versus out-group) would significantly decrease cultural distance, which would then facilitate lower endorsement of harmful stereotypes. This analysis involved a moderated mediation framework, with two focal sets of tests.

Our initial tests determined whether condition produced a significant change in cultural

distance over time and whether the strength of this effect was variable across Pakistani and American participants. To test this hypothesis, we entered participants' Time 1 (baseline) and Time 2 (postintervention) cultural distance scores into a 2 (time) × 2 (participant country) × 2 (condition) mixed-model analysis of variance (ANOVA), where time was a repeated factor and participant country and condition were independent groups factors.

Our latter tests on stereotypes determined whether changes in cultural distance mediated indirect effects of condition on reduced out-group stereotyping.¹ We tested this hypothesis using moderated mediation models using Preacher and Hayes's (2004) PROCESS macro, Template 14 with 5,000 samples. Participant condition was our independent variable (*X*), Time 2 (postintervention) cultural distance was our mediator (*M*), and stereotype items were our dependent variables (*Y*). All models controlled for Time 1 (baseline) cultural distance. We also entered participant country as a moderator of the *M*→*Y* leg of each model, to test whether participant country influenced the effect of cultural distance on specific stereotypes. In these models, we expected Pakistanis and Americans alike to show reduced cultural distance as a function of their intervention condition, but we expected Pakistanis' cultural distance to only mediate a corresponding shift in stereotypes about Americans and for American cultural distance to only mediate a shift in stereotypes about Pakistanis.

We conducted a supplemental set of Monte Carlo simulations (MacKinnon, Lockwood, & Williams, 2004) to test whether Pakistanis in the out-group condition changed over time in their attitudes about American morality and cultural ignorance and whether Americans in the out-group condition changed over time

in their attitudes about Pakistani warmth and freedom. These models were conducted using multilevel estimation, with observations (100 per simulation) nested within participants (50 per simulation). See Bauer, Preacher, and Gil (2006) for a discussion of using the Monte Carlo Method for testing multilevel mediation. See Selig and Preacher (2008) for the program we used to conduct these specific analyses.

Supplemental Materials References

- Bauer, D. J., Preacher, K. J., & Gil, K. M. (2006). Conceptualizing and testing random indirect effects and moderated mediation in multilevel models: New procedures and recommendations. *Psychological Methods, 11*, 142–163.
- Gelfand, M. J., Raver, J. L., Nishii, L., Leslie, L. M., Lun, J., Lim, B. C., . . . Aycan, Z. (2011, May 27). Differences between tight and loose cultures: A 33-nation study. *Science, 332*, 1100–1104. <https://doi.org/10.1126/science.1197754>
- MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research, 39*, 99–128.
- Payne, B. K., Cheng, C. M., Govorun, O., & Stewart, B. D. (2005). An inkblot for attitudes: Affect misattribution as implicit measurement. *Journal of Personality and Social Psychology, 89*, 277–293.
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers, 36*, 717–731.
- Selig, J. P., & Preacher, K. J. (2008, June). Monte Carlo method for assessing mediation: An interactive tool for creating confidence intervals for indirect effects [Computer software]. Retrieved from <http://quantpsy.org>
- Walther, J. B. (2009). Computer-mediated communication and virtual groups: Applications to interethnic conflict. *Journal of Applied Communication Research, 37*, 225–238.

1. The following analyses do not include the three-way interaction of Culture × Time × Condition on stereotype, given that we did not collect sufficient data to detect this effect. This three-way interaction reaches significance on ratings of Pakistani warmth but no other stereotypes. We suspect this is a product of low power, which is why we focus on the indirect effects in which cultural distance mediates the intervention's effects on stereotypes.