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To cite this article: Robert Thomas Hitlan, Michael A. Zárate, Kristine M. Kelly & M. Catherine DeSoto (2015): Linguistic ostracism causes prejudice: Support for a serial mediation effect, The Journal of Social Psychology, DOI: 10.1080/00224545.2015.1119668

To link to this article: http://dx.doi.org/10.1080/00224545.2015.1119668
Linguistic ostracism causes prejudice: Support for a serial mediation effect

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\begin{abstract}
This research investigated the effects of linguistic ostracism, defined as any communication setting in which a target individual (or group) is ostracized by another individual (or group) in a language that the target has extremely limited ability to understand. Participants were included or ostracized by their group members during a computer-mediated group discussion. Half of the ostracized participants were linguistically ostracized via their group members conversing with one another in a language the participant did not know well (Spanish Ostracism: SO), or in a language the participant did know well (English Ostracism: EO). SO participants reported feeling less similar than both included and EO participants. SO participants also reported being angrier and expressed more prejudice than included participants (and EO participants using effect size estimates). Results also provided support for the hypothesized serial mediation model. Findings are discussed in terms of implications for intergroup relations.
\end{abstract}

Language use represents one of the primary routes through which people communicate with one another. As such, language use is closely interwoven into the cultural fabric of a given society. The inability to effectively communicate with others at work or in a wide variety of social situations may be stressful and have important implications for both intra- and intergroup relations. The current research investigates how ostracism affects cognition and emotions and also examines some of the specific downstream consequences associated with linguistic ostracism (i.e., prejudice). Generally, research in this area has tended to focus on specific outcomes associated with being ostracized (e.g., psychological health, performance, conformity, aggression) or how these effects are moderated via individual differences (Williams, 2007). However, far fewer studies have asked the question “Why does ostracism affect targets?” To this end, we examine some of the specific mediational processes that may serve to help in determining “why” ostracism elicits certain types of responses and, in doing so, help to fill an important gap in this area of research.

According to the US Census Bureau, since 1980 there has been over a 158% increase in the number of people who speak a language other than English at home (from 23 to 59.5 million; Ryan, 2013). Of these, over half (37.5 million) indicated they spoke Spanish, with many reporting they had limited English proficiency. Further, approximately 23 million reported speaking a language other than English or Spanish (e.g., French, Russian, Persian, Chinese, Vietnamese) and, of these, approximately 38% indicated that they had limited English proficiency. In addition, as of 2007, 4.5 million individuals indicated that they could not speak English at all. Given that language is an important component of ethnic identity (Cargile & Giles, 1997, 1998; Giles, Taylor, Lambert, & Albert, 1976; Giles, Williams, Mackie, & Rosselli, 1995) the continuing debate over multiculturalism within the United States is not surprising (Malkin, 2007; Zárate, Shaw, Marquez, & Biagas, 2012). In fact,

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According to a Gallup poll, when asked about immigrants and language use, 96% of American citizens indicated that it is either important or essential for immigrants living in the United States to learn English (US English, Inc., 2015). Here, it is assumed that this push for immigrants is less about making the immigrants feel comfortable and more about making the native English speakers feel comfortable. Thus, one reason for the push toward an increased English language use/ability may relate to the general idea that people feel ostracized when others speak an unfamiliar language around them. This may explain why there are numerous instances of people being harassed, discriminated against, and even fired for speaking Spanish at their place of employment (Associated Press, 2000; Contreras, 2013; Fuchs, 2008; Garcia v. Gloor, 1980). Many such instances involve individuals who know English but were simply speaking Spanish around others, which presumably made some people uncomfortable and/or violated an organization’s “English-only” rules. We argue that such instances may also serve to highlight group-based categorizations and associated responses.

Research on social rejection, exclusion, and ostracism

The terms rejection, exclusion, and ostracism are often used interchangeably. However, it is possible to distinguish between them in terms of correlates and outcomes associated with each (Bernstein & Claypool, 2012a, 2012b; Molden, Lucas, Gardner, Dean, & Knowles, 2009; Smart-Richman & Leary, 2009; Williams, 2007). Williams (2007), defines ostracism as the ignoring of one or more individuals by one or more individuals, whereas exclusion involves keeping an individual (or group) apart from others, and rejection involves some sort of explicit statement that an individual (or group) is unwanted by others. The definition of ostracism noted above is most consistent with the behaviors being assessed in the current research. However, for consistency, we will continue to use those terms used by previous researchers when describing their research below.

A large body of research has been amassed attesting to the aversive nature of exclusionary behavior for one’s psychological and physical health (Baumeister & Leary, 1995; Williams, 2007). Generally speaking, such behavior can motivate targets to increase approach-oriented or conciliatory behavior or, alternatively, increase avoidance-oriented or withdrawal forms of behavior. Increased approach-oriented behavior aims at reestablishing oneself as a good and worthy group member, such as when one tries to compensate for a poorly performing group or one of its members (Williams & Sommer, 1997), or through increased conformity (Williams, Bernieri, Faulkner, Grahe, & Gada-Jain, 2000). In contrast, withdrawal-oriented responses to exclusion (which represent a fairly consistent finding within both correlational and experimental research) include: worse mood, increased anger/aggression and interpersonal deviance (Bierman & Wargo, 1995; Dodge, Coie, & Brakke, 1982; Hitlan, Kelly, Scheppman, Schneider, & Zárate, 2006; Twenge, Baumeister, Tice, & Stucke, 2001; Williams, 2007), increased derogation of others (Bourgeois & Leary, 2001), and a desire to avoid future contact with perpetrators (Cheuk & Rosen, 1994; Leary, Koch, & Hechenbleikner, 2001; Pepitone & Wilpizeski, 1960). Such withdrawal-oriented responses, such as aggression, have also been found to extend to individuals not directly involved in the experience (Twenge et al., 2001).

Additionally, research on cyberostracism—which refers to instances of being rejected, ignored, or excluded via some form of online social interaction—has found similar effects as those involving ostracism within face-to-face communications (Smith & Williams, 2004; Williams, Cheung, & Choi, 2000; Williams et al., 2002).

Ostracism, language, and group interactions

Over the past few years, research has extended the conceptualization of exclusion and ostracism to include a language-based component. According to Hitlan et al. (2006), language-based exclusion refers to any situation in which a target individual (or group) is ostracized by another individual (or group) via a language with which the target has extremely limited familiarity and understanding.
Hitlan et al., randomly assigned participants to read one of three vignettes describing a series of workplace interactions between a protagonist and two other coworkers. Participants were asked to assume the perspective of the main character in the vignette. All participants read the same introduction indicating that the main character worked for a major auto manufacturer and was happy with his/her job, workgroup, and career opportunities. After the introduction participants read that their other work-group members could speak both English and Spanish well. At this point the ostracism manipulation was administered. One third of the participants continued reading about a series of interactions between themselves (the main character) and two work-group members wherein the participant was actively included by their other group members over the course of several different types of workplace interactions. A second third of participants read about how the main character was ostracized by his/her work-group members during the same series of work-related interactions even after repeated requests from the main character to stop (English Ostracism). The final third of participants were ostracized during work-group interactions in a language they did not know: Spanish (Spanish Ostracism).

It was predicted that ostracism, especially Spanish Ostracism (SO) would elicit group-based cognitions (i.e., how similar the target felt toward his/her other group members) and facilitate thinking about others as either in-group or out-group members. Overall, ostracized participants reported being less emotionally committed and feeling less obligated to their organization. Additionally, SO participants indicated significantly reduced workgroup commitment and reported significantly greater symbolic threat (the degree to which participants felt that Mexican immigration threatens American culture and values) compared to EO participants. Moreover, SO resulted in higher levels of expressed prejudice directed toward others not directly responsible for the behavior (i.e., general class of Mexican immigrants).

Related to the above research, Dotan-Eliaz, Sommer, and Rubin (2009) investigated linguistic ostracism. Linguistic ostracism was defined as, “any situation in which people converse in a language that others cannot understand” (p. 364). In this research, participants were either included or ostracized by two confederates who oscillated back and forth between speaking English and Russian in the ostracism condition. Russian ostracized participants reported higher levels of rejection and anger, were less attracted to their coworkers, and viewed their team as less effective compared to linguistically included participants. Moreover, their perception of their group’s performance was most negatively impacted when linguistically ostracized participants also reported being more sensitive to such experiences (i.e., rejection sensitivity; Berenson et al., 2009; Downey & Feldman, 1996).

Consistent with these findings, other researchers have found that the effects of rejection and ostracism are moderated by several individual difference variables including trait self-esteem and depression, perceived control, social anxiety, and gender (for a review, see Williams, 2007). Taken together, research investigating the role of individual differences in this area has been important for answering questions related to “when” and “for whom” rejection and/or ostracism is most likely to exert its effects; yet, it is also important to understand “why” such behavior impacts targets. That is, what happens during the process of being rejected or ostracized that influences subsequent responses?

The current research was designed to extend our earlier work on language-based (i.e., linguistic) ostracism. The current research used a cyber-communication paradigm, and as such, the current research sought to integrate aspects of both cyber- and linguistic ostracism into a single research design. This area seems particularly important for better understanding the interplay between technology and social behavior and extends the concept of language ostracism to situations involving online modes of communication (e.g., chatroom, discussion board).

When interacting with other people, the categorization of “others” into in-groups and out-groups is often ambiguous. One can use multiple dimensions to categorize others (Zárate & Smith, 1990), depending on the context. However, because language use represents an important component of one’s ethnic identity (Cargile & Giles, 1997, 1998; Giles et al., 1976, 1995), we
argue that the language used to communicate among group members would serve to highlight differentiation cues and increase the likelihood of viewing and responding to others in terms of an in-group and out-group classification scheme. We further expected that such a classification scheme would serve to quickly highlight ethnicity and accentuate group-based distinctions related to ethnicity (Bargh, Chen, & Burrows, 1996; Haslam Oakes, Turner, & McCarty, 1995; Turner, Oakes, Haslam, & McCarty, 1994).

Related to this, Esses, Jackson, and Armstrong (1998) proposed an instrumental model of group conflict which proposes that both resource competition and out-group salience are important factors in determining attitudes toward immigrants and immigration. Salience refers to factors such as novel appearance and behavior. Research has found support for both competition and salience as important factors in determining attitudes toward immigrants (Zárate, Garcia, Garza, & Hitlan, 2004). We hypothesize that linguistic ostracism will highlight group-based distinctions and facilitate the categorization of others on the basis of ethnic differences. In doing so, we expected linguistic ostracism to accentuate intergroup difference leading to lower levels of perceived similarity between targets and perpetrators.

Research on intergroup emotions also suggests that such categorizations will have additional downstream effects on emotional states and group-based prejudices. According to Intergroup Emotion Theory (IET; Mackie, Devos, & Smith, 2000; Miller, Smith, & Mackie, 2004), one’s emotions are intrinsically linked to group membership. More specifically, “When social identity is salient, appraisals of situations or events related to social identity focus on social rather than personal outcomes. When emotions occur on a group basis, such emotions are often experienced on behalf of the in-group and the in-group and out-group become the targets of emotion” (Mackie et al., 2000, p. 603).

Consistent with this idea, Desteno, Dasgupta, Bartlett, and Cajdric (2004) found that current emotional state was an important factor in activating and/or creating unconscious intergroup biases. In this research, participants were classified as being either “overestimators” or “underestimators” based on the results of a bogus personality test. Participants then completed a measure of automatic attitudes toward the “out-group” using the implicit association test (IAT) both prior to and immediately after an emotion induction task. During the emotion induction task, participants were instructed to write about a past event that had made them angry (as compared to a sad or neutral event). IAT results between pre- and post-emotion induction indicated that anger was capable of producing an automatic bias (i.e., prejudice) against individuals previously classified as out-group members. We test the hypothesis that linguistic (i.e., Spanish) ostracism will elicit increased levels of anger and prejudice toward those thought to be responsible for the ostracism and the larger out-group to which the perpetrators belong (Twenge et al., 2001). In doing so, the current research begins to fill a gap in understanding the processes through which linguistic ostracism may exert its effects.

**Study overview and predictions**

Within the current research, participants were randomly assigned to be either included or ostracized by two other group members (research confederates) during an online group-based discussion. In the inclusion condition, participants were actively included during the entire task. In the ostracism conditions, participants were totally excluded from the group task after an initial introductory period. Specifically, in the English Ostracism (EO) condition, participants were ostracized via English where the other group members directed all communication only to one another while ignoring any inclusionary attempts made by the participant. In the Spanish Ostracism (SO) conditions, participants were treated identically to the above, except that the other group members switched from communicating in English to communicating in Spanish after the introductory period. After completing the online group-based discussion, participants completed several measures assessing their perceptions of their group members and Mexican immigrants as a group.
First, we expect that ostracism will reduce the perceived similarity between participants and their group members, especially when exposed to SO due to its ability to accentuate group-based distinctions (Bargh, Chen, & Burrows, 1996; Haslam & Turner, 1992; Zárate & Smith, 1990). We also expect that, consistent with previous research on linguistic ostracism (Dotan-Eliaz, Sommer, & Rubin; 2009) and intergroup emotions (Cottrell & Neuberg, 2005; Mackie et al., 2000), a similar set of relations will emerge for anger, with ostracized participants reporting more anger than included participants, especially when exposed to SO. Third, we expect that participants’ perceptions of reduced similarity to their other group members would be an important factor in determining group-based emotional states (i.e., anger; Cottrell & Neuberg, 2005; Desteno et al., 2004) and predict that perceived similarity will mediate the relation between ostracism and anger (i.e., ostracism > perceived similarity > anger). Fourth, in line with previous research indicating that linguistic ostracism can elicit anger (Chow, Tiedens, & Govan, 2008; Dotan-Eliaz et al., 2009) and the ability of anger to provoke prejudice (DeSteno et al., 2004; Parker-Tapias, Glaser, Keltner, Vasquez, & Wickens, 2007), we expect that the relation between SO and prejudice will be mediated by anger (i.e., SO > anger > prejudice). Finally, we test the hypothesized full serial multiple mediation model from SO > perceived similarity > anger > expressed prejudice.

Method

Participants

Participants included 84 students (56 women and 28 men) from a mid-sized Midwestern university, ranging in age from 18 to 27 years (M = 19.48, SD = 1.76). All participants received five dollars as compensation for their participation. The majority of participants reported being Caucasian (68.3%) followed by African-American (22%), Latino/Mexican-American (3.7%), and Other (6.1%).

Procedure and materials

After providing informed consent, participants were told that the purpose of the study was to investigate the effectiveness of different modes of communication (e.g., chatroom, face-to-face, videoconferencing) on stimulating discussion. Participants were further instructed that they would be communicating with other participants via an Internet chatroom. As part of the cover story, participants were informed that they would be participating in a group discussion with two other students from different universities. In actuality, the other participants were research confederates who interacted with the actual participant according to predetermined scripts. During the introduction period (initial 3 minutes of the 15 minute group discussion period), the confederates introduced themselves and always included the participant. If the participant did not volunteer introductory information, one of the confederates asked the participant to introduce him/herself. At the end of the 3-minute introductory period, the experimental manipulation was administered.

Participants were randomly assigned to one of four conditions: (1) inclusion, (2) English ostracism (EO), (3) Spanish ostracism (SO), or (4) Spanish ostracism comparison (SOC). For the first three conditions, the discussion topic of Mexican immigration to the United States was chosen to highlight and strengthen the effectiveness of the group-based manipulation and to also act as a natural lead-in to discover that the confederates knew Spanish and to the dependent measures, which included attitudes towards immigration. In the last condition, SOC, participants were also ostracized via Spanish, but the discussion topic was changed in order to account for potential priming effects associated with the immigration discussion topic.

Across all experimental conditions, the confederates logged into the chatroom using the same names and university affiliations. In the inclusion condition, the participants were actively included by the other group members throughout the entire discussion period. Confederates were polite, and receptive to the participant’s suggestions, thoughts, and opinions. If participants were not engaged in
the discussion, the confederates prompted the participant by asking about his/her thoughts and opinions. In the EO condition, the confederates directed the conversation to each other by specifying the name of the group member to whom a comment was directed. All attempts by the participant to contribute were ignored by the other group members. The confederates did not reply to any questions, comments, or requests made by the participant. In both of the first two conditions (inclusion and EO), all conversation between group members took place in English.

For the SO and SOC conditions, the same procedure was followed as indicated above, except that, immediately after a 3-minute introductory period, one confederate indicated that his father was born in Mexico and that his parents had taught him how to read and speak Spanish. After hearing this, the second confederate indicated that her parents were also born in Mexico and that she too could read and write Spanish. The confederates then began sending messages to each other in Spanish. Due to the potential for the discussion topic to prime culturally sensitive responding, the discussion topic in the SOC condition was on “The Freshman 15—Truth or Fiction.” The SOC condition followed the same procedure, and the discussion followed a similar length and tone.

After completing the group discussion, participants completed a questionnaire that included measures about their chatroom experiences, social attitudes, and prejudicial attitudes. In addition to those measures described below, we also collected information on the extent to which participants identified with being American (i.e., American identification) and social dominance orientation (Pratto, Sidanius, Stallworth, Malle, 1994; Sidanius & Pratto, 2001). However, because these were not directly related to the current set of predictions, these measures were not analyzed. After completing the final questionnaire, participants were debriefed, probed for suspicion, and dismissed. During the debriefing period, two participants indicated being suspicious about the true nature of the study. As a result, these participants were removed from subsequent data analyses.

Measures

Manipulation check
To determine the effectiveness of the exclusion manipulation, participants answered three questions assessing how accepted/ostracized they felt during the group discussion (e.g., How accepted did you feel by the other group members?, How much interaction did you have with the other group members?, and How cohesive was your group?; α = .88). All responses were obtained on 7-point scales ranging from 1 (Not at all) to 7 (Extremely). Scale scores were created by averaging across scale items. Higher average scores indicate greater perceived acceptance by the other group members.

Perceived similarity
The degree to which participants perceived of themselves as being similar to their other group members was assessed using four questions designed for the current research (e.g., How similar do you feel you were to the other participants in the study?, How much did you like the other members of your group?; α = .89). All responses were obtained on 7-point scales ranging from 1 (Not at all) to 7 (Extremely). Scale scores were created by averaging across scale items. Higher average scores indicate greater perceived similarity to the other group members.

Emotional state (anger)
Although the current research was limited to predictions regarding the emotional state of anger, to avoid possible demand characteristics, several additional emotional state descriptors were included in the assessment of emotion. These included adjectives tapping into 5 broad emotion categories derived from previous research via cluster analysis (Robinson & Clore, 2001; Storm & Storm, 1987). Participants were asked the extent to which each adjective was descriptive of their current state on a 9-point scale with endpoints ranging from 1 (I feel none of this in response to the situation) to 9 (I feel a lot of this in response to the situation). Positive and negative adjective descriptors were mixed across all scale items. Responses to the emotion descriptors angry, irritated, and disgusted were
combined to form a measure of anger ($\alpha = .76$). Scale scores were created by averaging across scale items. Higher numbers indicate feeling more anger as the result of their current situation.

**Expressed prejudice**

Prejudice was assessed with the expressed prejudice scale (Stephan, Ybarra, Martinez, Schwarzwald, & Tur-Kaspa, 1998). The prejudice items asked participants to rate their feelings about immigrants across 12 attitudinal items (e.g., admiration, dislike, acceptance, superiority, affection, disdain; $\alpha = .82$). All responses were obtained on a 10-point scale ranging from 0 (None at all) to 9 (Extreme). A scale score was created by reverse-scoring where necessary and averaging across items. Higher scores indicate more prejudicial attitudes toward Mexican immigrants and immigration.

**Spanish language ability/fluency**

Spanish ability/fluency was measured by four items assessing different aspects of language fluency, including reading, writing, speaking, and listening ($\alpha = .91$). Participants were asked to rate their ability to read, write, and speak Spanish. All responses were obtained on a 5-point scale ranging from 1 (No ability) to 5 (Excellent ability). Higher average scores were indicative of better Spanish language ability.

**Results**

**Spanish ability/fluency**

The mean score for Spanish fluency was 2.04 ($SD = .85$) indicating that, overall, participants reported being “below average” in their ability to read, write, and understand the Spanish language. Due to its important role in the current research, we also examined Spanish language ability for those participants who experienced SO. Two participants in the Spanish ostracism conditions self-reported their average Spanish ability to be “3” (average) or higher. As a result, these two participants were removed from subsequent analyses. After removing these two participants, the new mean Spanish ability/fluency was 1.99 ($SD = .81$). Given the primary SO manipulation focused on participants’ ability to read Spanish we also examined participants’ specific ability to read Spanish. Overall, the participants reported their mean Spanish reading ability to be in the “below average” range ($M = 2.11$, $SD = .94$). In addition, it should also be noted that, students in rural Illinois generally have few opportunities to practice their Spanish, and we believe that the manipulation was effective.

**Spanish (linguistic) ostracism**

In an attempt to simplify analysis and increase statistical power, while retaining the integrity of the ostracism manipulation, we examined whether the two Spanish ostracism conditions could be merged into a single SO condition. To this end, we examined the differences between the two SO conditions on the measures of acceptance, similarity, anger, and prejudice. No significant differences emerged between the SO and SOC conditions. Additionally, results indicated effect sizes of, $d = .19$, $d = .38$, $d = .11$, and $d = .02$, for each of these measures respectively (Appendix A provides the means, standard deviations, Cohen’s $d$ effect size estimates, and associated $p$ values). Only the effect size for perceived similarity was different from zero based on effect size confidence intervals. As a whole, we interpreted the overall pattern of findings as indicating the two SO groups produced similar effects, and they were combined into a single SO condition for hypothesis testing.
Manipulation check

Results of a One-Way Analysis of Variance (ANOVA) indicated a significant main effect of experimental condition on acceptance, $F(2, 77) = 68.18$, $p < .001$, $\eta^2 = .64$. Follow-up tests (Tukey) indicated significant differences between each of the experimental conditions with SO participants reporting the lowest level of acceptance during the group task ($M = 1.94$, $SD = .94$), followed by EO participants ($M = 2.57$, $SD = 1.22$), and included participants ($M = 5.00$, $SD = .97$). Table 1 lists the means and standard deviations for each condition, effect size estimates, and $p$ values for all pairwise comparisons. These results are viewed as supporting the overall effectiveness of the experimental manipulation.

Perceived similarity

Overall, perceived similarity was negatively related to both anger, $r(79) = –.48$, $p < .001$, and expressed prejudice, $r(79) = –.40$, $p < .001$. The less similar participants felt they were to their other group members, the more anger and expressed prejudice they reported. Additionally, consistent with predictions, results of a One-Way ANOVA indicated a significant main effect of ostracism on perceived similarity, $F(2, 77) = 37.22$, $p < .001$, $\eta^2 = .49$. Follow-up tests indicated significant differences between each of the experimental conditions with SO participants reporting the lowest level of perceived similarity ($M = 2.04$, $SD = 1.12$), followed by EO participants ($M = 2.92$, $SD = 1.43$), and included participants ($M = 5.01$, $SD = 1.05$). Table 1 lists the means and standard deviations for each condition, effect size estimates, and $p$ values for all pairwise comparisons.

Emotional state (anger)

In addition to the relation between anger and perceived similarity noted above, anger was also related to expressed prejudice, $r(79) = .39$, $p < .001$. Overall, participants who reported more anger also expressed more prejudice. In addition, results of a One-Way ANOVA indicated a significant main effect for ostracism on anger, $F(2, 76) = 8.02$, $p = .001$, $\eta^2 = .17$. Follow-up tests indicated that SO participants reported being significantly more angry ($M = 4.46$, $SD = 2.37$) than included participants ($M = 2.25$, $SD = 1.53$). EO participants ($M = 3.52$, $SD = 1.82$) were not significantly different from included participants.

Table 1. Means, standard deviations, and effect size estimates for study variables as a function of inclusionary status.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Inclusion (1) $n = 20$</th>
<th>English Ostracism (2) $n = 21$</th>
<th>Spanish Ostracism (3) $n = 39$</th>
<th>$d_w$ [Cronbach’$d$] $[CI_{95%}]$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acceptance</td>
<td>$5.00_a$ .97</td>
<td>$2.57_b$ 1.22</td>
<td>$1.94_c$ .92</td>
<td>$2.25$ $[1.924–2.584]$</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>1/2</td>
<td></td>
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<td>2/3</td>
<td></td>
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<tr>
<td>Similarity</td>
<td>$5.01_a$ 1.05</td>
<td>$2.92_b$ 1.43</td>
<td>$2.04_c$ 1.12</td>
<td>$1.70$ $[1.326–2.078]$</td>
<td>&lt;.001</td>
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<td>1/2</td>
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<tr>
<td>Anger</td>
<td>$2.25_a$ 1.53</td>
<td>$3.52_{ab}$ 1.82</td>
<td>$4.46_b$ 2.37</td>
<td>$.77$ $[.270–1.276]$</td>
<td>.112</td>
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<tr>
<td>Prejudice</td>
<td>$3.04_a$ 1.15</td>
<td>$3.35_{ab}$ 1.28</td>
<td>$3.96_b$ 1.38</td>
<td>$.26$ $[.103–.625]$</td>
<td>.191</td>
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Note. Pairwise comparisons using Tukey Honestly Significant Difference (HSD) to correct for inflated Type 1 error rate. $d_w =$ Cohen’s $d$ effect size estimate weighted by sample size. $[CI_{95\%}] =$ 95% CI associated with the Cohen’s $d$ point estimate.
different from either included or SO participants on self-reported anger. However, further examination of the 95% confidence intervals for the effect size point estimate comparing the inclusion to EO did not include zero. This finding provides some additional support for the initial predictions. However, while the effect size for the difference between the EO and SO conditions was $d = .44$ and in the predicted direction, the CI surrounding the effect size point estimate included zero indicating this portion of the hypothesis failed to receive support (see Table 1).

**Prejudice towards Mexican immigrants**

As predicted, results of a One-Way ANOVA indicated a significant main effect of ostracism on prejudice toward Mexican immigrants, $F(2, 77) = 3.83, p = .026, \eta^2 = .09$. Follow-up tests indicated significant differences between the inclusion and SO condition, with SO participants expressing significantly higher levels of prejudice ($M = 3.96, SD = 1.38$) compared to included participants ($M = 3.04, SD = 1.15$). EO Participants ($M = 3.35, SD = 1.28$) were not significantly different from either the inclusion or SO conditions. However, again, the effect size for the difference between the EO and SO conditions was $d = .46$ and the CI did not include zero, providing some additional support for the initial prediction that EO and SO would differ in expressed prejudice. Moreover, this effect size was almost twice as large as the difference between the inclusion and EO conditions ($d = .25$) (see Table 1).

**Perceived similarity as a mediator of the SO > anger relation**

Next, we tested the prediction that perceived similarity would mediate the effect of SO on anger using the PROCESS macro for SPSS (Hayes, 2013). This simultaneous approach to mediation is more powerful than other multi-step approaches for directly testing the significance of indirect effects in mediation models. In addition, this approach uses a nonparametric inferential bootstrapping procedure (n = 10,000), which does not make any assumptions about the shape of the sampling distribution underlying the indirect effect, to compute the bias-corrected 95% confidence intervals associated with the significance of the indirect effects (i.e., mediational effect). For all mediation analyses, the focus was on differences between the inclusion and SO conditions.

Results indicated that the total effect of SO on anger (i.e., the effect of SO on anger not considering perceived similarity) was significant, $b = 1.56, SE = .46, t = 3.39, p = .001$. Consistent with predictions, after controlling for the effect of the proposed mediator—perceived similarity—the direct effect of SO on anger was no longer significant, $b = .58, SE = .53, t = 1.09, p = .280$. Importantly, the indirect effect (i.e., mediated effect) of SO on anger through similarity was significant, $b = .98, BootSE = .41, BootCI_{95} = [.2675–1.8504], \kappa^2 = .20, BootSE = .07, BootCI_{95} = [.0613, .3453]$. These findings provide evidence that perceived similarity mediates the effect of SO on anger.

**Anger as a mediator of the SO > prejudice relation**

Next, we tested the prediction that anger would mediate the effect of SO on prejudice using the procedure identical to that notes above. Results indicated that the total effect of SO on prejudice (i.e., the effect of ostracism on prejudice not considering anger) was significant, $b = .81, SE = .29, t = 2.82, p = .006$. However, after controlling for the effect of the proposed mediator—anger—the direct effect of SO on prejudice was no longer significant, $b = .50, SE = .29, t = 1.70, p = .092$. Of import, the indirect effect (i.e., mediated effect) of SO on prejudice through anger was significant, $b = .31, BootSE = .17, BootCI_{95} = [.0650, .7579]; \kappa^2 = .11, BootSE = .06, BootCI_{95} = [.0241, .2735]$. These findings illustrate that, consistent with predictions, anger mediates the effects of SO on prejudice.
Serial multiple mediator model

Finally, we tested the full serial multiple mediation model from linguistic ostracism > perceived similarity > anger > prejudice. This model allows for the simultaneous testing of the indirect effect through both mediators and through each mediator by itself (i.e., controlling for the other mediator in the model). Full model coefficients are presented in Figure 1. Results indicated a significant total effect for SO on prejudice, $b = .44$, $SE = .18$, $t = 2.49$, $p = .015$. The total indirect effect (i.e., total mediation effect including both mediators) was also significant, $b = .42$, $BootSE = .21$, $BootCI_{95} = [.0058, .8505]$. To more fully assess the total indirect effect, we examined the contribution for each mediator separately and together in serial fashion (i.e., specific indirect effects). Both of the specific indirect paths through either perceived similarity alone, $b = .21$, $BootSE = .25$, $BootCI_{95} = [-.1995, .7803]$ and anger alone, $b = .03$, $BootSE = .12$, $BootCI_{95} = [-.1377, .3577]$ were not significant. These findings suggest that neither perceived similarity nor anger alone were independent mediators of the effect of linguistic ostracism on prejudice. However, the serial mediation indirect effect path was significant, $b = .17$, $BootSE = .13$, $BootCI_{95} = [.0022, .5617]$, providing support for a multi-step serial mediation effect from linguistic ostracism > perceived similarity > anger > prejudice.

Discussion

In the current research, participants interacted with other group members via a common mode of online communication, a chatroom. Consistent with theories on intergroup relations, we expected that ostracized participants would appraise themselves as being less similar to their group members, especially when exposed to SO. Consistent with predictions, ostracized participants reported feeling less similar compared to their included counterparts. In addition, SO participants reported feeling significantly less similar compared to EO participants.

We also expected that ostracized participants would report being angrier than included participants and that this effect would be strongest for SO participants. This hypothesis received modest support. SO participants reported being angrier compared to included participants. In addition, although the predicted difference in anger between the inclusion and EO conditions and between the EO and SO conditions were not statistically significant, the associated effect sizes for each was $d = .77$ and $d = .44$ (in the predicted directions), respectively. The lack of statistical significance may have been an artifact of the study being underpowered. For example, post-hoc power analysis using Gpower 3.1.9.2 indicated a statistical power level of .49 (assuming a medium effect size) and .89 (assuming a large effect size). Because it took two experimenters and two confederates to run 1 participant, a larger sample was prohibitively expensive. Moreover, the overall pattern of effect sizes related to similarity, anger, and prejudice suggest the psychological effects of SO are more pronounced compared to when participants were ostracized in a known language. These findings are
not only of theoretical interest but practically relevant to any society with immigrants that speak a language that is unfamiliar to citizens of the host country.

It was further predicted that SO, by virtue of its ability to highlight group-based distinctions, would lead to increased levels of prejudice toward Mexican immigrants. This prediction received partial support. SO participants expressed significantly higher levels of prejudice compared to included participants. As was the case with anger, a non-significant trend emerged with SO participants reporting higher levels of prejudice compared to EO participants \((d = .46)\). We expect that a similar power issue may be involved. Given this, we relied on both significance testing and effect size estimates (with associated 95\% CI’s) in determining the most likely pattern of relations.

Moreover, based on theories and research on intergroup conflict and emotions (Cottrell & Neuberg, 2005; Esses et al., 1998; Mackie & Smith, 2003; Mackie et al., 2000; Miller et al., 2004), it was predicted that: (1) the effect of SO on anger would be mediated by perceived similarity; (2) the effect of SO on prejudice would be mediated by anger; and (3) perceived similarity and anger would serially mediate the relation between SO and prejudice. Each of these hypotheses was supported. Both similarity and anger were found to be significant mediators of their respective effects. Additionally, when both similarity and anger were included in the final full serial mediation model (which examines both the independent and combined mediation effects) neither similarity nor anger were found to act independently; rather, these variables acted conjointly in providing support for a multi-step serial mediation effect. This may be a function of the correlation/shared variance between these two variables, \(r(79) = -.48, p < .001\), that is accounted for within the full serial mediation model.

The current research represents an important step in better understanding how language use can shape peoples’ attitudes. Arguably, language use has become an important symbolic and political issue in the United States. Given the changing demographics and increased Latino presence in the United States, language use will continue to be an important dimension on which people are categorized, judged, and evaluated. Consistent with this, the current research also supports some basic postulates underlying intergroup emotions theory. For example, manipulations intended to highlight group boundaries were associated with higher levels of anger and prejudice. In the broader context of intergroup relations, previous research suggests that being ostracized by similar others (e.g., in-group members) elicits physiological and biological responses consistent with a challenge response as indexed by higher cardiac output and lower total peripheral resistance (Blascovich, Berry-Mendes, & Seery, 2003) and increased circulating testosterone levels (DeSoto, Hitlan, Deol, & McAdams, 2010); whereas, being ostracized by dissimilar others has been linked to decreased circulating levels of free testosterone (DeSoto et al., 2010) and increased circulating levels of free cortisol (DeSoto & Hitlan, 2015).

As a whole, the research on social ostracism and rejection, along with the intergroup distinctions noted above, provide evidence that being ostracized or otherwise rejected is aversive to targets. However, the motivational tendencies underlying how one copes with such experiences seem contingent on whether the behavior (or lack thereof) is being perpetrated by others perceived to be similar (e.g., in-group members) or dissimilar (e.g., out-group members) to oneself. It appears social threats, including threats to one’s social status, elicit motivational tendencies consistent with a challenge or threat response depending on perpetrator characteristics (Blascovich et al., 2003; DeSoto & Hitlan, 2015; DeSoto et al., 2010).

**Limitations and directions for future research**

Due to the time-consuming nature of the current research, some practical limitations were evident. First, while the current research had ample power for detecting large effects, the power to detect moderate and small effect size estimates was substantially reduced. Larger (and more diverse) samples would help to establish the statistical significance of group differences via traditional null
hypothesis significance testing (Cohen, 1992). Nevertheless, the current research represents one of the first empirical studies examining linguistic ostracism and how linguistic ostracism compares to more traditional non-linguistic ostracism situations. We also believe this to be some of the first research to test a serial multiple mediator model through which SO exerts its effects on downstream responses/outcomes.

In addition, this initial study was designed to use only Spanish as the linguistic ostracism language. Future research may also want to consider the status of the linguistic ostracism language and examine how language status influences this entire process. Presumably, Mexicans and immigrants are often thought to represent lower status groups by the prototype “White” American. Would exclusion from a high status group produce the same or similar effects? Thus, Swedish, for example, might be considered more “exotic” and produce more curiosity than anger. Future research could also seek to investigate how and to what extent the use of different languages is related to different types of threat. It is plausible that individuals learn to cope in a multilingual world. So, to what extent are the current findings reproducible and are the current findings unique to younger American adults who are monolingual English speakers? The sample was picked because it is away from larger city centers that might have a more diverse population. One might predict that these effects occur in more homogenous small towns, though that question remains open to empirical test. It would also be interesting to investigate if the obtained or similar effects emerge when examining the linguistic ostracism of minorities.

Future research in this area may also benefit from manipulating the discussion topic. It remains unclear if other “more neutral” discussions or work-related topics would engender similar group-based responses. Moreover, while the current research represents an important step in better understanding the path through which linguistic ostracism (Spanish) impacts expressed prejudice, a more robust test may involve measuring prejudice both before and after such interactions. This way initial prejudice levels could be used to investigate change or as a potential moderator of the relationships between linguistic ostracism (e.g., Spanish ostracism) and similarity, anger, and prejudice. In addition, the current research was not designed to examine the link between prejudicial attitudes and actual manifest behavior. Thus, an important extension of this research would involve understanding if increased prejudicial attitudes lead to some downstream behavioral consequence (e.g., discrimination) to see how these ostracized (and now angrier) participants actually behave.

Conclusion

In conclusion, because individuals are increasingly likely to encounter people from other cultures, there is a very real possibility of being ostracized via language, whether intentional or not. Although, such differences in perceived intent may themselves lead to different reactions based on the perpetrators perceived motivation (Williams, 2007). We found the experience of SO makes people angry and sometimes causes them to reveal prejudice, and these outcomes can be damaging to intergroup relations in a variety of different situations and contexts. (Hitlan et al., 2006). But, why do Mexican immigrants provoke such anger and threat in monolingual English-speaking young Americans? Our results suggest that people can be angered by associated language differences. Being ostracized by others speaking an unknown/unfamiliar language, seems to engender stronger cues consistent with a potential threat, signaling a stronger phenomenological experience, compared to when people are ostracized via a known/familiar language.

Notes

1. Although, at the group level, participants mean Spanish reading ability was in the “below average” range, At the individual level, there were 4 participants who reported their ability to read Spanish as “above average” and 1 participant who reported their ability as “Excellent”. Even so, research suggests self-reports to be upwardly
biased when assessing one’s ability (Sheppard, Malone, & Sweeney, 2008) and the inclusion of participants who are better able to read Spanish should only work against our initial predictions.

2. We also tested an alternative serial mediation model by transposing the two serial mediators resulting in the following serial mediation model: SO > Anger > Perceived Similarity > Expressed Prejudice. Results again supported the overall mediation effect, with a statistically significant total indirect effect, $b = 46, BootSE = .17, BootCI95 = [.1315, .8115]$. Additionally, while the specific indirect path through anger alone was statistically significant, $b = .18, BootSE = .11, BootCI95 = [.0008, .5070]$, the serial mediation indirect effect path was not statistically significant, $b = .04, BootSE = .03, BootCI95 = [.0011, .1345]$.

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Appendix. Means, Standard Deviations, $p$ values, and effect size estimates for the two Spanish ostracism conditions.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Spanish Ostracism: SO (Immigration)</th>
<th>Spanish Ostracism: SOC (Freshman 15)</th>
<th>$t$</th>
<th>$p$</th>
<th>$d_w$ [95% CI]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acceptance</td>
<td>$2.02$</td>
<td>$0.91$</td>
<td>$1.88$</td>
<td>$0.60$</td>
<td>$0.56$ [0.38]</td>
</tr>
<tr>
<td>Similarity</td>
<td>$2.29$</td>
<td>$1.44$</td>
<td>$1.84$</td>
<td>$0.96$</td>
<td>$1.17$ [0.25]</td>
</tr>
<tr>
<td>Anger</td>
<td>$4.53$</td>
<td>$2.23$</td>
<td>$4.28$</td>
<td>$2.45$</td>
<td>$0.34$ [0.74]</td>
</tr>
<tr>
<td>Prejudice</td>
<td>$3.90$</td>
<td>$1.44$</td>
<td>$3.93$</td>
<td>$1.38$</td>
<td>$-0.36$ [0.65]</td>
</tr>
</tbody>
</table>

Note. $d_w =$ Cohen's $d$ effect size estimate weighted by sample size. [95% CI ] associated with the Cohen's $d$ point estimate.