Effects of Identity, Uncertainty, and Language Contact on Intergroup Relations

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Effects of Identity, Uncertainty, and Language Contact on Intergroup Relations

By

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Claremont Graduate University
2024
Approval of the Dissertation Committee

This dissertation has been duly read, reviewed, and critiqued by the Committee listed below, which hereby approves the manuscript of Heather T. Stopp as fulfilling the scope and quality of requirements for meriting the degree of Doctor of Philosophy in Psychology

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Abstract

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Despite sixty years of research examining both direct (Allport 1954; Pettigrew & Tropp, 2006) and indirect forms of contact (Wright et al., 1997), less is known about the power of contact with an outgroup language to shape intergroup relations. To address this lacuna in the research, the two current studies examined two potential contextual factors that may impact whether outgroup language contact worsens or improves attitudes and action tendencies toward Latinos in the United States. Specifically, whether or not an outgroup is viewed as having status and power as a distinct group and whether this perception as a distinctive group induces uncertainty about one’s own group membership (Hogg, 2000, 2007, 2012a, 2012b; Stephan et al., 2002). When uncertainty is induced, people should strengthen their identification with their linguistic identities and worsen attitudes and action tendencies towards an outgroup (Stephan et al., 2002; Tausch et al., 2007). If individuals experience low levels of uncertainty, language contact should yield the beneficial outcomes associated with direct and indirect intergroup contact. Two studies examined these factors by measuring the target variables (Study One) and by manipulating language exposure and priming both uncertainty and ethnolinguistic vitality (Study Two) with Amazon Mechanical Turk samples. Study One \(N=198\) suggests that language contact is associated with higher levels of prejudice when in the context of high uncertainty about one’s group membership and perceptions of the minority linguistic group’s status as a distinctive, cultural entity was also high. Greater levels of language contact was also associated with increases in prejudice in the
context of low uncertainty and perceptions of the minority linguistic groups higher status.

However, increases in language contact was only associated with more positive attitudes under lower levels of uncertainty and the minority group lacks status and power as a distinct group. Further, actual behavior toward the minority linguistic group seemed to be related more to the status and distinctiveness of the linguistic group. When the outgroup is perceived as a distinctive, high-status group, more negative action tendencies were found regardless of the level of group-level uncertainty. In the context of low group-level uncertainty with a linguistic outgroup that lacks distinctiveness and status, greater language contact was associated with more positive action tendencies. Against hypotheses, Study Two \((N = 217)\) found that when the minority language’s status and distinctiveness remained stable, feeling more certain about the fate of their own group lead to more negative attitudes toward Latinos after being exposed to the ingroup’s English language.
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Chapter 1

Introduction

Although largely unfamiliar twenty years ago, such phrases as “Hablamos español” or “Para español apriete dos” can be seen and heard prevalently throughout many areas of the United States. Within the last decade, the Latino population has been responsible for over half of the population growth in the United States (Noe-Bustamante et al., 2020). Although currently the second largest ethnic minority group (19% of the population), the United States Census Bureau (2018) projects that the Latino population will represent the largest ethnic minority in the United States by 2050 (26%) and will reach 111 million (28%) by 2060. Considering that the largest growth of Latinos over the past ten years has occurred in areas with initially small Latino populations like North Dakota (129% increase), South Dakota (66%), and New Hampshire (48%), this increased prevalence of the Latino population and by extension, the Spanish language has not been without its controversies (Noe-Bustamante et al., 2020). For example, some groups emphasize the importance of making English the official language of the United States as well as enacting other English-only initiatives. Further, some individuals, especially majority-group Caucasians, believe that “Spanish will take over” resulting in uncertainty about their own group’s future status as well as other perceived cultural changes in the U.S (Barker & Giles, 2004). Despite this pressing need to understand the impact of contact with an outgroup language on broader intergroup relations, little research has examined the implications of language contact in the context of cultural uncertainty.

Research on direct and indirect forms of intergroup contact suggests that increased contact with another group’s language may, under certain conditions, improve intergroup relations (Allport, 1954; Pettigrew & Tropp, 2006; Wright et al., 1997). This capacity to impact broader relations stems from the centrality and importance of language in key group
memberships that define who we are in society (Blott, 2003; Bourhis & Giles, 1977). Self-uncertainty related to these language-related groups may shape language contact effects in two ways. As described, the increased presence of the Spanish language may induce uncertainty due to perceived changes to the status quo (Stephan et al., 2002). Unrelated self-uncertainty may impact language contact as well. Self-uncertainty may lead to stronger group identification (Hogg 2000, 2007). Both of these sources of heightened uncertainty may be detrimental to intergroup relations (Stephan et al, 2002).

While examining the role of uncertainty in the relationship between contact with language and intergroup relationships, previous research on the contact hypothesis in general, and language contact specifically are discussed. This is followed by an examination of the impact of uncertainty on intergroup contact and the proposal that changes in an outgroup language’s ethnolinguistic vitality may serve as a source of group-level uncertainty. Two studies are presented to examine the moderating role of ethnolinguistic vitality and uncertainty in the relationship between language contact and intergroup relationships.

**Intergroup Contact**

According to the contact hypothesis, prejudice can be reduced if group members come into contact with one another under specific circumstances that are optimal for beneficial contact (Allport, 1954; Pettigrew& Tropp, 2006). Research suggests intergroup contact can reduce prejudice if the groups have equal status, institutional support for contact, and the contact is cooperative rather than competitive. Although it has had its share of critics and has been the subject of controversy (Bramel, 2004; Dixon et al., 2005; Forbes, 1997; McCauley, 2002), the contact hypothesis remains a strong theme in social psychological research and one of the most widely endorsed prejudice-reduction interventions today (Oskamp & Jones, 2000).
Sixty years of research has shown that intergroup contact not only improves attitudes toward outgroups (Graf & Sczesney, 2019; Islam & Hewstone, 1993; Pettigrew & Tropp, 2006), but is also associated with other indicators of improved intergroup relations such as greater empathy (Hayward et al., 2017; Pettigrew & Tropp, 2008), intergroup trust (Paolini et al., 2007; Tam et al., 2009), intergroup forgiveness (Tam et al., 2008), and more positive meta-attributions (Capozza et al., 2020), as well as a decrease in intergroup anxiety (Hayward et al., 2017; Pettigrew & Tropp, 2006, 2008), and intergroup bias (Dovidio et al., 2017), which have been found in both experimental (e.g., Aberson et al., 2008) and naturalistic settings (Levin et al., 2003; Paolini et al., 2004). Additional support for the benefits of intergroup contact comes from a meta-analysis by Pettigrew and Tropp (2006) that revealed that intergroup contact does in fact reduce prejudice toward racial and non-racial groups for both majority and minority individuals. Perhaps more importantly, Allport’s conditions for optimal contact, which are rarely met in real-world settings, are not necessary for improvement in intergroup relations. Instead, Pettigrew and Tropp (2006) state that they facilitate the prejudice reduction process.

Despite the potential utility of direct physical contact with outgroup members for the improvement of intergroup relations, direct intergroup contact is ripe with hurdles to such positive effects. For example, individuals do not always have the opportunity to come into contact with members of the other group or potential innovations to bring group members together would be problematic or costly. Although direct contact may not be a viable solution to these problems, indirect forms of contact such as contact with language provide simple and more cost-effective opportunities for contact that may be more easily controlled to reduce the potential for negative consequences such as anxiety, uncertainty, or perceived discrimination.
Although the impact of language contact remains under-researched (Harwood & Vincze, 2012; Wright & Bougie, 2007; Wright & Tropp, 2005), other indirect forms of contact have been more fully explored. These indirect or extended forms of contact including knowing an ingroup member who has friendly contact with a member of an outgroup (Wright et al., 1997; Stark, 2020; Zhou et al., 2019), viewing contact between an ingroup and outgroup member (Banas et al., 2020; Lienemann & Stopp, 2013; Ortiz & Harwood, 2007; Schiappa et al., 2005; Vizzali et al., 2014) as well as imagining contact between one’s self and a given outgroup (Crisp & Husnu, 2011; Crisp & Turner, 2012; Stathi et al., 2011; Stathi et al., 2019; Turner et al., 2007; Waggoner, 2021) have received empirical support similar to direct contact. That is, greater indirect contact with an outgroup is associated with both stronger and more positive outgroup attitudes (Cameron et al., 2007; Cameron et al., 2006; Christ et al., 2010; Turner et al., 2007; Wright et al., 1997), greater intergroup trust (Paolini et al., 2007), less intergroup anxiety (Paolini et al., 2004; Turner et al., 2007) and greater willingness to interact with the outgroup (Crisp & Husnu, 2011; Gómez et al., 2011).

**Language Contact**

Throughout the world, increased globalization has led to greater language contact and conflict. Because language is both a powerful symbol of a group and marker of intergroup boundaries (Giles, 2012), contact with an outgroup language may have a particularly powerful impact on intergroup relations. For example, Wright and Tropp (2005) examined the impact of contact with language by comparing outgroup evaluations for students in bilingual (Spanish-English) and monolingual (English-only) school systems in California. After controlling for physical, direct contact with the outgroup, language contact additionally improved attitudes toward outgroup members.
Further support can be found in research on the linguistic landscape (Dailey et al., 2005; Landry & Bourhis, 1997). Linguistic landscape refers to the presence or absence of language in the social environment such as media or road signs which provides information about the linguistic groups in the area and the amount of power/status that each group holds (Landry & Bourhis, 1997). The extent of language presence seems to impact intergroup attitudes. For example, Latinos rated Anglo-accented speakers more positively as their environment included greater amounts of the English language, but less favorably as the amount of Spanish language in their social context increased (Dailey et al., 2005). Although the linguistic landscape does seem to impact broader intergroup relations, the focus is mainly on the composition or proportion of language signs in the area, which resembles more of an opportunity for contact rather than the actual amount of contact an individual has with each language. Further, researchers do not consider the amount of direct contact that the individuals have with the given outgroup in this context. Thus, it is not possible to disentangle to what degree the effects occur due to direct contact, contact with the outgroup language, or a combination of both.

If language contact does in fact have an independent impact on intergroup relations, how does any sort of change in evaluation occur without ever coming into direct contact with the outgroup? Put simply, the transformation occurs because of the involvement of the self during the indirect contact process. Some forms of indirect contact such as language contact impacts intergroup relations due to the connection between individuals and their group memberships (Harwood, 2010).

According to social identity theory (Tajfel & Turner, 1986; also see Abrams & Hogg, 2010; Hogg, 2018; Hogg & Abrams, 1988; Hogg et al., 2017), which is discussed later, part of an individual’s sense of self comes from his or her group memberships. Group membership
impacts sense of self when one identifies with a given group and thus experiences a feeling of belonging or similarity to other group members, emotional ties to group members, and representation of self as a group member (Cameron, 2004). The more strongly an individual identifies with a group, the greater the overlap between the self and the ingroup (Tropp & Wright, 2001). Because of the relationship between the self and the ingroup with which an individual identifies, other ingroup members and symbols of a group are included in self-representations as well, via self-categorization processes.

By viewing or hearing about contact between an ingroup and outgroup member, the outgroup member becomes included in the representation of the ingroup member. Because the ingroup member is already included in an individual’s self-representation, the outgroup member is included in the self as well. This process by which the outgroup member becomes included in an individual’s self-representation has been found to significantly mediate the relationship between indirect contact and outgroup attitudes (Cameron et al., 2006, 2007; Lienemann & Stopp, 2013; Wright et al., 1997).

Due to its status as a group symbol, language can be the basis of identification with a group (Barker & Giles, 2004; Blott, 2003; Bourhis & Giles, 1977; Trudgill & Tzavaras, 1977; Wright & Bougie, 2007). In fact, some indigenous groups will only consider a person a member of their group if they speak the group’s language (Blott, 2003). Although most groups are not this strict, language remains integral for groups even when not all group members speak the language. A common example of this is the Welsh who had assimilated into British culture by not only diminishing their use of the Welsh language, but also by changing names to more British-sounding ones and adapting to British accents from their previous Welsh accents (Bourhis & Giles, 1977). However, when the Welsh wanted to establish a more positive identity,
they used their language once again to do so. Specifically, the Welsh reverted back to using their Welsh accents, speaking Welsh, and changing their names to the previous Welsh ones (Bourhis & Giles, 1977).

A group using language as a tool to redefine a group signifies the connection between language and group membership. This association between a group and its language further denotes a connection between language and the self. Thus, similarly to extended and vicarious contact, language contact also can improve or worsen intergroup relations.

**Uncertainty and Contact**

Whether contact in general and language contact in particular has a positive or negative impact on intergroup relations may hinge on the degree to which uncertainty is evoked. Uncertainty about a group or concerning the future interaction between one’s self and an outgroup member has a negative impact on intergroup contact and hinders the improvement of intergroup relations. Specifically, individuals may feel uncertain about intergroup contact for a variety of reasons including lack of information about the outgroup, how to interact with the outgroup, or even how other ingroup members will react to contact with an outgroup (Stephan & Stephan, 1985). According to Stephan and Stephan (1985), this is one element that contributes to intergroup anxiety, which must be reduced for the improvement in intergroup relations to occur. As a result of a large degree of uncertainty and anxiety, the individual may attempt to avoid intergroup contact when possible (Plant & Devine, 2003; Stephan & Stephan, 1985). When the individual does come into contact with an outgroup member with a large degree of anxiety, even positive contact may be perceived as negative and thus, intergroup attitudes remain either unchanged or even more negative (Van Zomeren et al., 2007).
A positive consequence of imagining intergroup contact is to reduce uncertainty related to contact with outgroup members. The simulation eases uncertainty by increasing feelings of self-efficacy, reducing anxiety, and providing information about behavioral scripts for intergroup contact (Crisp & Husnu, 2011; Husnu & Crisp, 2010, 2011; Stathi et al., 2011). Imagined contact reduces uncertainty about whether or not the individual has the ability/tools to interact with members of another group. They believe that they have the capability to interact with the outgroup. Further, the behavioral script information provides individuals with blueprints for how to interact with members of the outgroup, which reduces uncertainty as well.

How does uncertainty influence intergroup relations? Uncertainty reduction, especially self-uncertainty, is a main motivation for both group identification and human behavior (Hogg, 2000, 2007, 2012b, 2020, 2021a, 2021b). Uncertainty-identity theory, a motivational theory compatible with social identity theory (Tajfel & Turner, 1986), outlines how identifying with a group reduces feelings of uncertainty and explains why individuals identify with low status groups despite potential harm to their self-esteem (Reid & Hogg, 2005). According to uncertainty-identity theory, uncertainty about the self is uncomfortable because the self organizes information related to our attitudes, beliefs, and behaviors. When individuals are uncertain about themselves, they can utilize their group memberships to reduce their unease. The uncertainty reduction occurs via a depersonalization process whereby we view ourselves and others in relation to group prototypes.

Prototypes are sets of attributes that both define who a group is as well as set it apart from other group memberships (Hogg 2000, 2007). When interacting with a member of another group, we know what to expect based upon the accurate and sometimes, inaccurate expectations about what they believe and will do in a given situation from these group prototypes. Just as we
stereotype others, we can stereotype ourselves through this depersonalization process; that is, we categorize ourselves based upon our group prototypes. Thus, we gain information about what we should think, feel, and do in given situation. This information reduces self-uncertainty. Therefore, by identifying with a group and assigning its prototype to oneself, we can reduce feelings of uncertainty about ourselves (Hogg et al., 2007; Reid & Hogg, 2005).

**Ethnolinguistic Vitality**

Ethnolinguistic vitality represents a potential additional source of uncertainty in the context of language contact (Barker & Giles, 2004; Belavadi & Hogg, 2016; Giles et al., 1977; Harwood et al., 1983; Kuipers-Zandberg & Kircher, 2020). Composed of three factors - institutional support, demography, and status, ethnolinguistic vitality refers to the ability of a linguistic group to remain a viable and distinct group (Barker & Giles, 2004; Giles et al., 1977). Thus this concept has some similarities to entitativity in that vitality relates to the “groupiness” of a given group. A group high in vitality is characterized by a large number of speakers/group members, high degree of formal and informal institutional support (e.g. government, religious organizations, mass media), and high in status. These groups are more likely to be a distinct group and thus, impact broader intergroup relations. Groups low in vitality are more likely to assimilate and thus, tend to have little impact (Bourhis et al., 1981).

Perceptions of an outgroup relevant to one’s own group vitality also impacts intergroup relations as delineated by ethnolinguistic vitality theory (Giles et al., 1977; see also Clément & Norton, 2021; Ehala, 2015). Ethnolinguistic vitality theory stems from social identity theory (Tajfel & Turner, 1986; also see Hogg, 2006; Hogg & Abrams, 1988). According to social identity theory, self-esteem concerns prompt individuals to pursue a positive social identity. This positive social identity is partially established by a comparison process between one’s own group
and a relevant outgroup on a given dimension. An identity is determined to be positively distinct to the extent that the perceived evaluative gap between the groups favors the ingroup.

Ethnolinguistic vitality theory uses this same comparison process when examining linguistic groups. In this case, the comparison is made between the perceived ethnolinguistic vitalities of one’s own linguistic group and a relevant outgroup. Thus, perception of growing ethnolinguistic vitality of an outgroup language has implications for one’s own social identity. That is, the majority group may feel a threat to their identity due to a decrease in the perceived gap between the ingroup and outgroup linguistic groups. One result of this type of identity threat is to discriminate against the minority language to preserve the status quo (Barker & Giles, 2004).

Ethnolinguistic vitality may impact language contact. When the ethnolinguistic vitality between the two groups is relatively stable and lacks competition, perceptions of high ethnolinguistic vitality should not serve as an identity threat. In fact, these conditions of high institutional support and cooperation between groups resemble the conditions for optimal contact outlined by Allport (1954). Thus, contact under these conditions should improve intergroup relations. In support of this prediction, Harwood and Vincze (2012) assessed the impact of viewing the minority language Swedish media on stereotypes in Finland. Overall, they found that greater language contact via the media was associated with more positive stereotypes of Swedish speakers especially when the vitality of Swedish was perceived to be high.

When the ethnolinguistic vitality of a minority linguistic group is growing, perceptions of high vitality may lead to an identity threat and feelings of self-uncertainty. For example, the English language has traditionally held a unique status, which has largely remained unchallenged in the United States. Due to the subsequent increase in the vitality of the Spanish language,
coming into contact with Spanish may induce feelings of uncertainty about the perceived changes to the status quo and unease about what the future will hold. Specifically, uncertainty may result from insecurity of cultural-identity changes throughout the United States, the fate of the English language, or status changes for English-speakers. Thus, the symbolic and realistic threats may negatively impact English-speakers’ identity continuity (Iyer & Jetten, 2011; Van Knippenberg et al., 2002).

In support of this argument, Stopp and Hogg (in prep) examined how differences in identification as an English-speaker, contact with the Spanish language, and Spanish vitality relate to attitudes toward Latinos in a Caucasian sample. When Spanish vitality was perceived as high, greater language contact was associated with more negative attitudes toward Latinos for individuals who highly identified as English-speakers. Low identifiers displayed the opposite relationship, similar to the relationship found by Harwood and Vincze, presumably due to lack of an identity threat. That is, greater Spanish language contact was associated with more positive attitudes. Although the relationship between uncertainty and vitality has not been empirically tested, this study suggests that identification levels do impact perceptions of outgroup vitality. High vitality in the out-group, especially when vitality is growing, may invoke in-group members feelings of uncertainty concerning these identities due to perceptions of symbolic and realistic threat.

In addition to language contact inducing uncertainty, self-uncertainty, such as not knowing one’s place in the world may impact intergroup situations despite being unrelated to the specific contact situation. Recall that according to uncertainty identity theory (Hogg, 2000, 2007), individuals may identify with groups to reduce self-uncertainty. Because linguistic group
memberships are salient during language contact, these individuals will identify with their linguistic group and act in the same manner as those who are chronically high identifiers.

**CURRENT STUDIES**

Two studies were conducted to examine the impact of Spanish language contact on both attitudes and action tendencies toward Latinos for the majority group, English speakers. The studies also examined the moderating role of uncertainty and ethnolinguistic vitality in these relationships between Spanish language contact and both attitudes and action tendencies toward Latinos. Both studies hypothesize that Spanish language contact will improve attitudes and there will be more positive action tendencies toward Latinos when high Spanish ethnolinguistic vitality is accompanied with low uncertainty for English speakers. When high Spanish ethnolinguistic vitality is accompanied with high uncertainty, language contact will worsen attitudes and there will be more negative action tendencies toward Latinos by English speakers.

The first study is a measurement-based study hosted on Amazon’s Mechanical Turk. Caucasian American participants answered questions about their amount of contact with the Spanish language, the perceived level of Spanish ethnolinguistic vitality, group-level uncertainty, identification as an English speaker, attitudes toward Latinos, and action tendencies toward Latinos. The second study was also hosted on Amazon’s Mechanical Turk. In this study, contact with the Spanish language was manipulated, and both Spanish ethnolinguistic vitality and uncertainty were primed. As in the first study, the dependent variables were Latino attitudes and action tendencies toward Latinos. Again, the analysis was restricted to Caucasian Americans.
Chapter 2

Study One

Based on the contact hypothesis (Allport, 1954; Pettigrew & Tropp, 2006), increased in-group contact with the outgroup language should be related to more positive attitudes and action tendencies especially when there is institutional support for the contact (high Spanish language ethnolinguistic vitality). However, the positive effects should only occur when the contact situation does not evoke uncertainty (Hogg, 2000, 2007, 2012; Stephan & Stephan, 1985). When the situation induces uncertainty about group memberships, group memberships will become more salient and individuals will strive to protect their group. In this context, the language contact should lead to more negative attitudes and action tendencies. Thus, Study One will examine the following hypotheses.

Hypothesis 1: There will be a significant three-way interaction between language contact, uncertainty, and Spanish language vitality: when vitality is high, greater language contact will be associated with more positive attitudes under low uncertainty and more negative attitudes under high uncertainty. When Spanish vitality is low, there will be no relationship between language contact, uncertainty, and attitudes toward Latinos.

Hypothesis 2: There will be a significant three-way interaction between language contact, uncertainty, and Spanish language vitality. When vitality is high, greater language contact will be associated with more positive action tendencies when uncertainty is low, but greater language contact will be associated with more negative action tendencies when uncertainty is high. When Spanish vitality is low, there will be no relationship between language contact, uncertainty, and action tendencies toward Latinos.

Hypothesis 3: These effects under hypotheses 1 and 2 will be mediated by intergroup anxiety.
Method

One hundred and ninety-eight (198) Caucasian Americans were sampled from Amazon’s Mechanical Turk (Mturk). Although data were collected from participants regardless of their racial background (N = 243), the analysis was restricted to Caucasian non-Latinos because the English language is generally associated with the majority group Caucasians in the United States. Further, no other racial group comprised 10% of the sample and thus, were not large enough to determine if the relationship between language contact and both attitudes and action tendencies toward Latinos differed for each racial group. The final sample consisted of 104 males and 94 females and was on average 40.11 years of age (SD = 11.41). G*Power was used to determine the target sample size of 65 for a medium effect size (power = .80, $f^2$ = .30, and $p = .05$). Additional cases were gathered to account for the restriction of the sample size to solely Caucasian participants. In Study One, language contact, Spanish ethnolinguistic vitality, and group-level uncertainty were measured. Latino attitudes and action tendencies were the two outcome variables. Intergroup anxiety was measured as a mediator.

Procedure

Participants were recruited using Amazon’s Mechanical Turk (Mturk), a crowdsourcing website. Requesters upload Human Intelligence Tasks (HITs) which range from sorting tasks to private or academic surveys that workers complete for a nominal payment. Collecting data via Mturk provides the opportunity to collect data from a more diverse sample (e.g. older, higher SES) compared to the typical undergraduate sample, which enhances generalizability (Paolacci & Chandler, 2014; Rouse, 2015). Further, Mturk data have been found to be as reliable as more traditional face-to-face data (Bates & Lanza, 2013; Buhrmester et al, 2011; Paolacci & Chandler, 2014). This survey was posted as “a study on contact with the Spanish language” with a pay rate
of one dollar. Interested participants were taken to the informed consent page of the embedded “surveygizmo” survey. If participants did not wish to participate, they clicked no and were taken to the debriefing page.

If participants chose to participate, they clicked yes and were taken to the remainder of the survey. Participants indicated how much contact they have with Spanish, perceptions of Latinos, amount of group uncertainty, attitudes toward Latinos, action tendencies toward Latinos, and demographic information (Please See Appendix A). Upon completion of the survey, participants were then taken to the debriefing page and thanked for their participation.

Measures

*Ethnolinguistic Vitality.* Ethnolinguistic vitality was measured using an adapted version of Bourhis et al’s, (1981) Subjective Vitality Questionnaire (SEVQ). Demographics (e.g., number of present and future speakers), formal and informal institutional support (e.g., radio stations), and perceived status of the Spanish language and its speakers represent the three dimensions that comprise the 9-point scale. The response options ranged from 1 not at all to 9 extremely. The 22-item scale typically asks respondents to answer questions for two linguistic groups which is used to compare the vitalities of two linguistic groups. The current study only includes a single group (Spanish language) because the interest is in the status and norms of the Spanish language and its speakers rather than a comparison between the ethnolinguistic vitalities of the Spanish language and English language and their respective speakers. Further, the unnecessary burden of the additional 21 items necessary for the comparison of the ethnolinguistic vitality levels was reduced.

Because the scale taps three different dimensions, an exploratory factor analysis with varimax rotation was performed. Although the scale has been found to be reliable and predictive
of intergroup attitudes and behavior, the number and composition of the distinct factors in the factor analysis typically vary across studies (Abrams et al., 2009). As found by Abrams et al., (2009), the items did not load cleanly on distinct factors and thus, were not separated into distinct factors. Further, the reliability analysis did not show that the reliability would substantially increase by removing any of the items. For these reasons, the 21 items were averaged to form a single measure of ethnolinguistic vitality.

**Language Contact.** Nine items adapted from work on the linguistic landscape were used to measure language contact (Landry & Bourhis, 1997). This nine-point scale asked respondents to specify the amount of exposure they have with the Spanish language thru signs, music, the media, cultural events, and coworker’s, friends’, and strangers’ conversations. The response options ranged from 1 *not very* to 9 *very often*. An analysis of reliability showed that the reliability did not increase by removing any of the items. Thus, the items were averaged together to comprise a single scale.

**English-speaking identification.** Eight items, adapted from those typically used in social identity research (Hogg & Hains, 1998; Hogg et al., 2007), were used to measure English-speaking identification on a nine-point scale, which ranged from 1 *not very much,* to 9 *very much.* Respondents indicated the degree to which respondents identify, belong, fit in, feel similar to, and feel like an English speaker as well as their overall impression of English speakers and how much they would stand up for English speakers. An analysis of reliability did not significantly increase by removing an item. Thus, the items were averaged together to form a single scale ($\alpha = .89$, $M = 7.36$, $SD = 1.36$).

**Group-level uncertainty.** This three-item scale asked respondents the degree to which they are uncertain about the US’s future as an English-speaking nation, that English will remain
the US’s sole official language, and that English will remain the US’s predominant language. Response options ranged from 1 not very uncertain to 9 very uncertain. The reliability analysis showed that the scale’s reliability did not significantly increase by removing any of the items. As with the other scales, the items were averaged together to form a single scale.

**Intergroup Anxiety.** Intergroup anxiety was measured by a six-item scale, which asked respondents the degree to which they feel comfortable, confident, uncertain, awkward, anxious, and at ease while interacting with Latinos on a scale of 1 not at all to 9 extremely (Stephan et al., 2002). The analysis of reliability showed that the reliability did not significantly increase by deleting any of the items. For this reason, the items were averaged to comprise a single scale.

**Latino Attitudes.** Attitudes toward Latinos was measured using Stephan and colleagues’ (2002) scale. The six-item scale asked respondents to what degree they feel respect, liking, acceptance, approval, warmth, and openness toward Latinos on a scale of 1 no __ at all to 9 extreme __. As with the other scales, the reliability analysis showed that the scale’s reliability did not increase by removing an item. The items were averaged to form a single scale.

**Action Tendencies.** A nine-item scale (Laham et al., 2010; Tam et al., 2006) measured behavioral intentions toward Latinos. Respondents indicated to what degree Latinos make them want to be considerate to them, spend time with them, find out more about them, want to talk to them, keep them at a distance, have nothing to do with them, avoid them, argue with them, oppose them, and confront them. Responses ranged from 1 not at all to 9 very much. Items were coded such that greater values indicate more positive behavioral intentions. According to the analysis of reliability, the scale reliability did not increase by removing any of the items and therefore, the items were averaged to form a single scale.
Friendship Contact. One item assessed direct physical contact with Latinos. Friendship contact was used in this study as the control variable for direct contact as it is the most powerful form of direct contact (Davies et al., 2011; Pettigrew & Tropp, 2006). To disentangle the unique relationship of language contact from direct contact with Latinos, friendship contact was used as a control variable during hypothesis testing. Respondents designated the number of Spanish-speaking friends that they have from 1 none to 9 many.

Results

Study One had three measured predictor variables (language contact, Spanish language ethnolinguistic vitality, group-level uncertainty), two measured outcome variables (Latino attitudes and action tendencies), and one measured mediator (intergroup anxiety). For all scales, reliability analyses were conducted. Whether age and sex needed to be controlled for during data analysis by checking whether they were significantly correlated with the mediator and two dependent variables. Sex was significantly related to intergroup anxiety ($r = .23, p = .001$), but was not significantly related to attitudes toward Latinos ($r = -.01, p = .92$) or to action tendencies ($r = .02, p = .92$). Age was not related to intergroup anxiety ($r = -.01, p = .96$), attitudes toward Latinos ($r = -.07, p = .31$), or to action tendencies ($r = -.03, p = .75$). Sex was used as a controlled variable during the analysis with intergroup anxiety. Age was not used as a control variable in any of the analysis. Table 1 displays the means, reliabilities, standard deviations and intercorrelations of the predictor and outcome variables along with potential control variables.

To examine the hypotheses, two mediated moderation analyses (Model 12) were conducted using SPSS PROCESS macros (version 4.2; Hayes, 2022) with Latino attitudes and action tendencies as the outcome variables respectively. The first analysis examined Hypothesis One that when vitality is high, greater language contact will be associated with more positive
Table 1

Reliabilities, means, SDs, and intercorrelations of the control variables, predictor variables, and outcome variables (Intergroup anxiety, Latino attitudes, Action tendencies toward Latinos)

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<td>1.58</td>
<td>.44**</td>
<td>.32**</td>
<td>.12</td>
<td>.27**</td>
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<td>4. Language contact (9 items)</td>
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<td>.75**</td>
<td>.30**</td>
<td>-.01</td>
<td>-.16**</td>
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<td>.17*</td>
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<td>6. Uncertainty (3 items)</td>
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<td>1.78</td>
<td>-.23**</td>
<td>-.25**</td>
<td>.25**</td>
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<td>7. Latino Attitudes (6 items)</td>
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<td>6.45</td>
<td>1.79</td>
<td>.79**</td>
<td>-.57**</td>
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<td>8. Action Tendencies (9 items)</td>
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<td>6.70</td>
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<tr>
<td>9. Intergroup Anxiety (6 items)</td>
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<td>1.69</td>
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*Note: All scales are on a 9-point scale. Higher numbers indicate more positive attitudes and action tendencies. * p < .05 ** p < .001

attitudes under low uncertainty and more negative attitudes under high uncertainty. When Spanish vitality is low, there will be no relationship between language contact, uncertainty, and attitudes toward Latinos. This analysis also addressed the hypothesized mediating role of intergroup anxiety (Hypothesis Three). Using Latino attitudes as the criterion, sex was entered as an additional covariate because it was significantly correlated with intergroup anxiety. Sex($R^2 =$
.41, \( SE = 1.95, F(10, 175) = 12.2, \) estimate = .48, \( SE = .19, t = 3.69, \) 95% CI = [.05,.91]), the two-way interaction between language contact and uncertainty (estimate = -.19, \( SE = 04, t = -2.90, \) 95% CI = [-.28, -.10]), the two-way interaction between uncertainty and vitality (estimate = .30, \( SE = .06, t = -3.55, \) 95% CI = [.11, .49], as well as the hypothesized three-way interaction (estimate = .07, \( SE = .03, t = 2.45, \) 95% CI = [.01,.11]) were significantly related to Latino attitudes. When uncertainty was low, greater language contact was associated with more positive attitudes at both low (\( b = .39, SE = .14, t = 2.79, p = .006 \)) and mean levels (\( b = .25, SE = .10, t = 2.25, p = .03 \)) of vitality. When uncertainty is high, greater language contact was associated with more negative attitudes regardless of levels of vitality (low; \( b = -.40, SE = .17, t = -2.29, p = .007, \) mean; \( b = -.36, SE = .13, t = -2.74, p = .007, \) high; \( b = -.32, SE = .12, t = -2.62, p = .01 \); See Figure 1).

Against Hypothesis Three, the PROCESS Model 12 showed that friendship contact (\( R^2 = .29, F(9, 176) = 7.85, \) estimate = -.35, \( SE = .06, t = -6.01, \) 95% CI = [-.46, -.23]), sex, (estimate = .80, \( SE = .22, t = 3.69, \) 95% CI = [.37, 1.23]), and uncertainty (estimate = .29, \( SE = .08, t = 3.62, \) 95% CI = [.13, .45]) were significantly related to intergroup anxiety. However, none of the two-way or three-way interactions were significantly related to intergroup anxiety (\( p’s > .26 \)). Further, the index for moderated mediation was not significant (\( R^2 = .02, SE = .02, F(1, 175) = 5.33, \) estimate = .02, 95% CI = [-.02,.06]).

Next, a parallel mediated moderation analysis (Model 12) was conducted with action tendencies as the outcome variable was conducted to examine Hypothesis Two. Hypothesis Two which predicted a significant three-way interaction between language contact, vitality, and uncertainty such as when vitality was high, greater language contact would be associated with more positive action tendencies when uncertainty was low, but greater language contact was
Figure 1

The relationship between language contact and Latino attitudes moderated by uncertainty and ethnolinguistic vitality

Panel A: High Uncertainty

Panel B: Mean Uncertainty
Panel C: Low Uncertainty

hypothesized as associated with more negative action tendencies when uncertainty was high. When Spanish vitality was low, no relationship between language contact, uncertainty, and action tendencies toward Latinos was anticipated. Sex ($R^2 = .41$, $F(10, 175) = 12.0$, estimate = .51, $SE = .19$, $t = 2.63$, 95% CI = [.13, .89]), intergroup anxiety (estimate = -.42, $SE = .06$, $t = -6.47$, 95% CI = [-.55, -.29]), the two-way interactions between language contact and vitality (estimate = -.20, $SE = .06$, $t = 3.55$, 95% CI = [-.31, -.09]) and language contact and uncertainty (estimate = -.12, $SE = .04$, $t = -2.90$, 95% CI = [-.21, -.04]), as well as the hypothesized three-way interaction ($R^2 = .02$, $F(1, 175) = 6.02$, $p = .01$, estimate = .07, $SE = .03$, $t = 2.45$, 95% CI = [.01, .12]) were significant.

When uncertainty was low, greater language contact was associated with more positive action tendencies ($b = .34$, $SE = .13$, $t = 2.68$, $p = .008$) under low vitality and more negative action tendencies when vitality was high ($b = -.19$, $SE = .10$, $t = -2.03$, $p = .04$). When uncertainty
was at the mean, greater language contact was associated with more positive action tendencies when vitality was low \((b = .28, SE = .08, t = 3.44, p = .007)\). When uncertainty was high, greater language contact was associated with more negative action tendencies at mean \((b = -.31, SE = .12, t = -2.66, p = .008)\) and high \((b = -.39, SE = .11, t = -3.52, p = .001; \text{See Figure 2})\).

Again against Hypothesis Three, the PROCESS Model 12 showed that friendship contact \((R^2 = .29, F(9, 176) = 7.85, \text{estimate} = -.34, SE = .06, 95\% \text{ CI} = [-.46, -.23])\) and uncertainty (\(\text{estimate} = .80, SE = .08, 95\% \text{ CI} = [.37, 1.23]\)) were related to intergroup anxiety. None of the

**Figure 2**

*The relationship between language contact and action tendencies toward Latinos moderated by uncertainty and ethnonlinguistic vitality*

Panel A: High Uncertainty

![Figure 2](image-url)
Panel B: Mean Uncertainty

Panel C: Low Uncertainty
two-way or the hypothesized three-way interaction reached significance ($p$’s > .26). Further, the index of moderated mediation was not significant (estimate = .02, $SE = .02$, 95% CI = [-.02, .04]). Thus, there was no support for hypothesis three.

**Discussion**

Building on previous research, the main goal in Study One was to determine initial support that uncertainty is a main factor that relates to the improvement or worsening of outgroup attitudes and action tendencies toward outgroup members during language contact. Hypotheses One and Two were partially supported. Hypothesis One stated that when vitality is high, greater language contact will be associated with more positive attitudes under low uncertainty and more negative attitudes under high uncertainty. When Spanish vitality is low, there will be no relationship between language contact, uncertainty, and attitudes toward Latinos. This hypothesis was partially supported. In support of Hypothesis One, greater language contact was associated with more negative attitudes under mean and high levels of vitality when uncertainty was high. Against Hypothesis One, when uncertainty was low and vitality was low and at mean levels, greater language contact was associated with more positive attitudes toward Latinos. When uncertainty was low, greater language contact was associated with more negative attitudes when vitality was high. Hypothesis Two stated that when vitality is high, greater language contact will be associated with more positive action tendencies under low uncertainty and more negative action tendencies under high uncertainty. When Spanish vitality is low, there will be no relationship between language contact, uncertainty, and action tendencies toward Latinos. As with Hypothesis One, Hypothesis Two was partially supported. When vitality was high, greater language contact was associated with more negative action tendencies under both high and low levels of uncertainty. When vitality was low, greater language contact was
associated with more positive action tendencies when uncertainty was low and at mean levels. When vitality is at the mean, greater language contact was associated with more negative action tendencies when uncertainty was high.

Although contrary to predictions, the association between greater language contact with both Latino attitudes and action tendencies under low uncertainty and vitality can still be explained by research on the contact hypothesis. When vitality is low, the Spanish language and its speakers are generally not prevalent in everyday life. By definition, the Spanish language and its speakers would lack institutional support, power, and would be less frequently used. For an individual to have contact with the Spanish language when it is low in vitality, the speaker would have to seek it out. Thus, the contact would be voluntary. Research on the contact hypothesis suggests that voluntary contact facilitates the relationship between contact and the improvement in attitudes (Islam & Hewstone, 1993). Because uncertainty is low, the contact situation would not constitute an identity threat and thus, an improvement in attitudes and more positive action tendencies makes intuitive sense.

Hypothesis Three predicted that these three-way interactions would be mediated by intergroup anxiety. Although intergroup anxiety is an established mediator of both direct forms and indirect forms of contact, this hypothesis was not supported in the current study.

Study One provided initial support of the influence of uncertainty during contact with an outgroup language. Previous research (Stopp & Hogg, in prep) theorized that uncertainty about one’s group membership could explain why under high levels of perceived Spanish vitality, greater contact with the Spanish language was associated with more negative attitudes toward Latinos for those high in identification as an English speaker and more positive attitudes for those low in identification. Uncertainty may also explain the difference between Stopp and
Hogg’s (in prep) findings and those of Harwood and Vincze (2012) who found that when Swedish vitality was high, greater language contact via the media was associated with more positive outgroup stereotypes. In Finland, the level of perceived competition between the Finnish and Swedish languages does not exist. As a result, the identity threat that occurs in the United States does not occur during language contact in Finland. Because the identity threat does not occur, the increased level of uncertainty that occurs during language contact in the United States does not exist in the contact situation in Finland.

Although Study One is the first step in analyzing the role of uncertainty in language contact, language contact, ethnolinguistic vitality, and uncertainty were not manipulated. To delve deeper into this issue, Study Two manipulated and/or primed the variables to determine causality. This is particularly important in contact research as the relationship between attitudes and contact tends to be bidirectional (Pettigrew 1997; 1998).
Chapter 3

Study two

Study Two was designed to determine a causal relationship between uncertainty, ethnolinguistic vitality, and language contact with both Latino attitudes and action tendencies toward Latinos. Study Two is conceptually similar to Study One with a few exceptions worth noting. The Friendship contact, Latino attitudes, intergroup anxiety, and action tendencies measures were the same as those used in study one. Unlike Study One, language contact was manipulated by exposing participants to either pictures written in the Spanish language (Spanish condition) or the English language (English condition), and both uncertainty and ethnolinguistic vitality were primed. The hypotheses were identical to those in Study One.

Hypothesis 1: There will be a significant three-way interaction between language contact, uncertainty, and vitality. When vitality is high, there will be more positive attitudes under low uncertainty and more negative attitudes under high uncertainty in the Spanish condition than the English condition. When Spanish vitality is low, there will be no relationship between language contact, uncertainty, and attitudes toward Latinos.

Hypothesis 2: For action tendencies, there will be a significant three-way interaction between language contact, uncertainty, and vitality. When vitality is high, more positive action tendencies when uncertainty is low and more negative action tendencies when uncertainty is high in the Spanish condition compared to the English condition. When Spanish vitality is low, there will be no relationship between language contact, uncertainty, and action tendencies toward Latinos.

Hypothesis 3: These effects under hypotheses 1 and 2 will be mediated by intergroup anxiety.

Method

As in Study one, participants were recruited via Amazon Mechanical Turk. 217 Caucasian Americans were sampled from Amazon’s Mechanical Turk (Mturk). As in Study One,
data were gathered from all participants regardless of ethnic background (N = 287), but data analysis was restricted to Caucasian Non-Latino participants. The final sample (N = 217) consisted of 108 Males and 109 Females who were 41.7 years of age (SD = 10.67). G*Power was used to determine the target sample size of 199 for a medium effect size with an ANCOVA design (power = .80, $f^2 = .20$, and $p = .05$).

There were three manipulated/primed variables which yielded a 2 (ethnolinguistic vitality: low, high) X 2 (uncertainty: low, high) X 2 (language contact: English, Spanish) factorial design. The friendship contact, action tendencies, intergroup anxiety, and Latino attitude measures were identical to those used in Study One.

**Procedure and Measures**

As in Study One, the study was posted on Amazon Mechanical Turk as “a study on intergroup relations” with a pay rate of one dollar. Interested participants were taken to the informed consent page of the embedded “surveygizmo” survey. If the individual chose not to participate, they were taken to the debriefing page. If the participant chose to participate, they clicked “yes” and were taken to the remainder of the study.

First, participants thought of all of the ways that Latinos and the Spanish language are becoming more (or less) prominent and prestigious and indicate three of these ways. Next, they thought of all the things that make them (un)certain about their group membership and indicate three things that make them more or less (un)certain. They then viewed either 4 Spanish or English signs or advertisements and answer questions about each. Finally, participants answered questions about their attitudes toward Latinos, action tendencies toward Latinos, and demographic information (Please See Appendix B). After completing all of the items, participants were debriefed and thanked for their participation.
*Language contact.* Language contact was manipulated by exposing participants to either 4 Spanish signs and advertisements or English signs and advertisements. The pictures included a stop and yield sign, a Coca Cola advertisement, and a Save The Manatees advertisement. After each picture/advertisement, participants were asked two questions about the content to ensure that the participant were paying attention to the signs/ads.

*Ethnolinguistic Vitality.* Ethnolinguistic Vitality was primed in this study. Participants were asked to think of all of the ways that Latinos and the Spanish language were becoming more (less) prominent and prestigious. Then they were asked to list three of these things.

*Uncertainty.* Unlike Study One, uncertainty was primed in this study (Hogg & Mahajan, 2018). Participants were asked to think of all the things that make them feel (un)certain about their group membership. They were then asked to list three of the things that made them feel (un)certain.

As was stated, the intergroup anxiety, Latino attitudes, action tendencies toward Latinos, and demographic information were identical to Study One. Table 2 displays the reliabilities, means, standard deviations of the two primes (ethnolinguistic vitality, uncertainty), the manipulation (language contact), dependent variables, and control variables.
Table 2

Reliabilities, means, SDs, and intercorrelations of the control variables, manipulation, and primes, and outcome variables (Intergroup anxiety, Latino attitudes, Action tendencies toward Latinos)

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*Note: Language contact was manipulated with a value of 0 (English) and 1 (Spanish). Ethnolinguistic vitality was primed with a value of 0 (Low) and 1 (High). Uncertainty was primed with a value of 0 (certain) and 1 (uncertain). All scales are on a 9-point scale. Higher numbers indicate more positive attitudes and action tendencies.

* p < .05   ** p < .001

Results
Study Two examined a mediated moderation model with one manipulated variable (language contact) and two primed variables (uncertainty and Spanish ethnolinguistic vitality). There were two dependent variables (attitudes and action tendencies toward Latinos) and one mediator (intergroup anxiety). Before commencing hypothesis testing, whether sex or age needed to be controlled in subsequent analyses was checked. Sex was significantly correlated with action tendencies ($r = .17, p = .01$), but was not significantly related to intergroup anxiety ($p = .46$) or Latino attitudes ($p = .11$). Age was not significantly related to action tendencies ($p = .57$), intergroup anxiety ($p = .90$), or Latino attitudes ($p = .38$). Thus, sex was solely entered as a covariate in analyses with action tendencies.

To examine the hypotheses, two mediated moderation analyses (Model 12) was conducted using SPSS PROCESS macros (version 4.2; Hayes, 2022) with Latino attitudes and action tendencies as the outcome variables respectively. For hypothesis one to be supported, there will be more positive attitudes under low uncertainty and more negative attitudes under high uncertainty in the Spanish condition than the English condition when vitality was high. When Spanish vitality is low, there will be no relationship between language contact, uncertainty, and attitudes toward Latinos. This first hypothesis was examined using the first SPSS PROCESS Macro (Model 12) with Latino attitudes as the dependent variable. The analysis found main effects for language contact ($R^2 = .51, SE = 1.56, F(9, 207) = 24.2$, estimate = .89, $SE = .35, t = 2.57, p = .01, 95\% CI = [.21, 1.58]$), intergroup anxiety (estimate = -.68, $SE = .05, t = -13.08, p = .001, 95\% CI = [-.78, -.57]$), and vitality (estimate = .67, $SE = .3, t = 2.02, p = .05, 95\% CI = [.02, 1.31]$). There was also a significant two-way interaction between language and uncertainty (estimate = -1.2, $SE = .49, t = -2.47, p = .01, 95\% CI = [-2.15, -.24]$) and the hypothesized three-way interaction (estimate = 1.42, $SE = .68, t = 2.08, p = .04, 95\% CI = [.08,
When vitality and uncertainty were low, more positive attitudes were found in the Spanish language condition than in the English condition ($b = .89, SE = .35, t = 2.57, p = .01$; See Figure 3).

Hypothesis three predicted that intergroup anxiety would mediate the relationship between the language contact, uncertainty, and vitality three-way interaction and attitudes. Against hypothesis three, the PROCESS Macro Model 12 found a main effect for Spanish speaking friends ($estimate = .20, SE = .05, t = -4.2, p < .001, 95\% CI = [-.30, -.11]$) and a two-

Figure 3

*Significant three-way interaction between language contact, ethnolinguistic vitality, and uncertainty on attitudes toward Latinos (Study 2).*

Panel A: English Condition
Panel B: Spanish Condition

way interaction between uncertainty and vitality (estimate = 1.63, SE = .65, t = 2.51, p = .01, 95% CI = [.35, 2.90]), but the hypothesized three-way interaction was not significant (p = .41).

Further, the index for moderated mediation did not find evidence of mediation as the Confidence Interval included zero (estimate = .51, SE = .63, 95% CI = [-.72, 1.74]). To examine the significant two-way interaction between uncertainty and vitality on intergroup anxiety a PROCESS Macro Model 1 was run (See Figure 4). When uncertainty was high, greater intergroup anxiety was found in the high vitality condition compared to low vitality ($R^2 = .04$, $F(1, 210) = 9.56$, estimate = 1.12, $SE = .33$, $t = 3.39$, $p < .001$ 95% CI = [.47, 1.77]).

A second PROCESS Macro Model 12 was conducted with action tendencies as the dependent variable to examine hypothesis two. Hypothesis two would be supported with a significant three-way interaction between language contact, vitality, and uncertainty. When vitality is high, there will be more positive action tendencies under low uncertainty and more negative action tendencies under high uncertainty in the Spanish condition than the English condition. When Spanish vitality is low, there will be no relationship between language contact,
significant two-way interaction between ethnolinguistic vitality and uncertainty on intergroup anxiety (Study 2).

![Graph showing intergroup anxiety levels with vitality conditions.]

uncertainty, and action tendencies. Against Hypothesis Two, the only significant effects were main effects for intergroup anxiety ($R^2 = .41$, $SE = 1.66$, $F(10, 205) = 13.92$, $p < .001$, estimate = -.56, $SE = .05$, $t = -10.39$, $p < .001$, 95% CI = [-.67, -.46]) and sex (estimate = .50, $SE = .18$, $t = 2.77$, $p = .006$, 95% CI = [.14, .85]). None of the two-way or the hypothesized three-way interactions reached significance ($p$’s > .12).

Hypothesis Three predicted a mediation effect for intergroup anxiety. Against Hypothesis Three, Spanish friends ($R^2 = .14$, $SE = 2.73$, $F(9, 206) = 3.82$, $p < .001$, estimate = -.19, $SE = .05$, $t = -3.92$, $p < .001$, 95% CI = [-.28, -.09]) and the two-way interaction between uncertainty and vitality was significant (estimate = 1.60, $SE = .64$, $t = 2.49$, $p = .01$, 95% CI = [.33, 2.86], but the hypothesized three-way interaction was not significant ($p = .55$). Further, the index of moderated mediation did not support mediation as the confidence interval included zero (estimate = .30, $SE = .53$, 95% CI = [-.71, 1.35]).
Discussion

Study Two improved upon Study One in two important ways. First, ethnolinguistic vitality is typically measured in correlational studies (Abrams et al., 2009). Thus, this was among the first studies to experimentally prime ethnolinguistic vitality to determine a causal relationship. Second, there was some support that contact with language can impact attitudes and broader intergroup relations. Generally, the support was limited. Against hypotheses, more positive attitudes were found in the Spanish language condition when uncertainty and vitality were low. Interestingly, this effect does not seem to indicate an impact of contact with an outgroup language as it was the English condition that seemed to cause more negative attitudes rather than the Spanish condition improving attitudes. It is possible that the English language further primed participants’ ingroup identities which lead them to view the relevant outgroup negatively.

High levels of uncertainty may not have increased identification and subsequently, led to negative attitudes as hypothesized because the uncertainty prime focused on group-level uncertainty rather than self-uncertainty. One avenue to secure a positive identity when uncertain at the group-level is to disidentify with the group (Wagoner et al., 2017; Wagoner & Hogg, 2016). The subjects were uncertain about their group and could believe that a better group would satisfy their identity needs and disidentify as an English speaker. In this situation, Spanish speakers are no longer an outgroup and thus, there would be no need to display negative attitudes toward them.

Although against hypothesis, these findings should be pursued further in subsequent studies. The limited impact of language contact may have occurred due to the weak manipulation. The participants looked at advertisements for a short period of time without
requiring them to interact or engage with the language meaningfully. The richness and quality of contact is important for contact to impact intergroup relations (Cable et al., 2006; Daft & Lengel, 1984; 1986; Liu et al., 2024). Thus, the low richness and quality of the language contact may not have reached the threshold to impact attitudes and action tendencies in all conditions.

Further contrary to hypotheses, action tendencies toward Latinos were not impacted by language contact, uncertainty, or vitality. Although surprising, prejudicial attitudes do not always relate to negative action tendencies toward the outgroup (Bagci et al., 2019). However, this could also be due to the weakness of the language contact manipulation. Finally, the hypothesized three-way interaction between language contact, uncertainty, and vitality did not significantly impact intergroup anxiety and intergroup anxiety was not found to be a significant mediator. Consistent with research (Stephan & Stephan, 1984), there was a significant two-way interaction between uncertainty and vitality. When vitality was high, those in the high uncertainty condition had more intergroup anxiety than those in the low uncertainty condition.
Chapter 4
Final Discussion

Although the Latino population and thus, the Spanish language, are becoming increasingly prevalent throughout the United States, the intergroup contact and uncertainty literature have not addressed the impact of contact with an outgroup language on broader intergroup relations (For exceptions see Harwood & Vincze, 2012; Wright & Tropp, 2005). These studies addressed this dearth of research by measuring language contact and manipulating exposure with the Spanish language in Caucasian samples. Specifically, language contact led to different outcomes depending on the degree to which the contact situation induced uncertainty. However, these studies did not yield consistent findings. In Study One, greater language contact was associated with more negative attitudes under mean and high levels of vitality when uncertainty was high. Further, greater language contact was associated with more negative attitudes when uncertainty was low and vitality was high. When uncertainty was low and vitality was either low or at mean levels, greater language contact was associated with more positive attitudes toward Latinos. For action tendencies, greater language contact was associated with more negative action tendencies under both high and low levels of uncertainty when vitality was high. When vitality was at the mean and uncertainty was high, greater language contact was also associated with more negative action tendencies. When vitality was low and uncertainty was either low or at mean levels, greater language contact was associated with more positive action tendencies.

In Study Two, the effects for Latino attitudes were paradoxically found in the English condition rather than being associated with contact with the Spanish language. When vitality and uncertainty were low, more negative attitudes were found in the English language condition.
Contrary to Hypothesis Two, there were no significant effects for action tendencies. Finally, contrary to Hypothesis Three, intergroup anxiety was not found to a significant mediator for either Latino attitudes or action tendencies.

The difference in findings between Study One and Two may have occurred in part due to the operational definitions of language contact. In Study One, the language contact measure encompassed various different locations where the participant could have been exposed to language throughout their everyday life from hearing and reading the Spanish language from Spanish-speakers themselves, the media, and even posted signs. Study Two used a weaker Spanish language manipulation. Participants viewed advertisements and signs in the Spanish or English language lasting only a few seconds to minutes. This is less immersive than exposure across modalities potentially at the same time throughout their everyday life which was potentially measured in Study One. This immersion implies interaction on some level between the individual and the outgroup language which is an essential criterion for intergroup contact to impact attitudes rather than the potential for contact (Pettigrew, 1998). Thus, the lack of effects of Study Two are not surprising. Communication research finds that forms of media (e.g., face-to-face vs. bulk mailings) differ in terms of their richness or ability to communicate information (Cable et al., 2006; Daft & Lengel, 1984; 1986). Richer media leads to greater involvement and ability to communicate information as well as potentially more positive perceptions about the contact experience (Liu et al., 2024). Due to the greater quality of interaction with an outgroup language, the contact situation may yield stronger outcomes as the richness of the media increases (Stathi et al., 2019). Thus, future studies should employ a stronger language contact manipulation considering a need for a more immersive experience.
Taken together with Harwood and Vincze (2012), Study One suggests language contact could serve as an additional form of indirect contact with a linguistic outgroup. One of the greatest benefits of indirect forms of contact is that they are easier to use when developing interventions to improve intergroup relations. When levels of uncertainty can be reduced, language contact can be used simply to inform interventions. For example, giving bilingual instructions or materials, posting bilingual signs, listening to music or even watching films/televisions in other languages may all have an impact on intergroup relations. Such inexpensive alterations may have profound effects.

Further, although imagined contact and other forms of indirect contact do not have as large an effect as direct forms of contact, this form of indirect contact increases the intentions of individuals to directly interact with outgroup members in the future (Coco et al., 2020; Crisp & Husnu, 2011; Gómez et al., 2011). Language contact may have a similar effect. Consistent with work examining the approach tendencies for those low in intergroup anxiety (Plant & Devine, 2003; Stephan & Stephan, 1985), increased language under low levels of uncertainty may influence individuals to seek out actual direct contact with that group. In this way, these interventions can lead to further and stronger improvements to intergroup relations over time (Crisp & Husnu, 2011).

**Limitations and Future Directions**

One limitation across both studies was that the only potential mediator measured was intergroup anxiety. Although an established mediator in the contact literature (Tropp & Pettigrew, 2006; Zhou et al, 2019), other affective and cognitive mediators such as empathy, ingroup norms, outgroup norms, or inclusion of other in self may be more influential in language contact (Vezzali et al., 2019; Wright et al., 1997; Zhou et al., 2019). Normative information is a
component of ethnolinguistic vitality which was used as a moderator in this study. Normative information may be important for the conditions under which the contact takes place but may also be changed by increased contact with an outgroup language. This cannot be addressed in the present studies.

Both studies focused on majority group contact with a minority group language. Different mechanisms may be needed to explain contact between minority groups. Due the size of the Latino population in the United States, the Spanish language has a unique position within the U.S. compared to other minority languages. Not only have bilingual signs become more prevalent, but jobs seek out bilingual employees giving individuals with knowledge of the Spanish language an advantage in the job market. No other minority language group in the U.S. have reached this status. This may lead other minority language groups to resent Spanish speakers and the language for not having to face the same difficulties of learning the English language and the potential loss of an important symbol of their own group due to assimilation (Bourhis et al., 1997; 2019; Clément & Norton, 2021).

The major limitation of Study Two was the previously addressed lack of richness of the language manipulation. Further taking away from the participants’ quality of contact was the online nature of the study. It is possible that other distractions in the participant’s environment took attention away from the language contact manipulation further limiting contact quality. Only basic questions were used to assess whether or not the participants saw the advertisements and signs. Other indicators such as time spent viewing the advertisement were not measured to address to what degree participants interacted with the stimuli. Despite being the practical option given the number of participants needed, it is a limitation to the present studies.
Despite the limitations, these studies address an important area of research not yet fully addressed by uncertainty and contact research with a plethora of exciting possibilities. Future research should examine the way in which language contact resembles and differs from other types of indirect contact. This relates to the previously discussed mediators as well as the valence of the contact. Does positive or negative contact more strongly impact intergroup relations? Further, could positive language contact have a buffering effect after a negative contact experience (Paolini et al., 2014; Prati et al., 2020)?

Future research should also consider language contact as a potential inexpensive intervention to improve intergroup relations. Similar to other forms of indirect contact, listening to music or watching films in an outgroup language may increase the intentions of individuals to directly interact with outgroup members in the future (Coco et al., 2020; Crisp & Husnu, 2011; Gómez et al., 2011). In this way, these interventions can lead to further and stronger improvements to intergroup relations over time (Crisp & Husnu, 2011).

The academic setting provides a potentially particularly powerful venue to impact broader intergroup relations and thus, should be considered for future interventions. As Wright and Tropp (2005) found, language contact in an academic setting can have a positive impact on intergroup relations by improving outgroup attitudes. This academic setting may provide an avenue for this improvement by reducing uncertainty during contact. The academic setting reduces uncertainty by providing a highly structured environment with institutional support for the contact. In this structured setting, the children can learn the behavioral scripts associated with language contact. Thus, children know how to interact and that it is socially acceptable to do so, which reduces the uncertainty in both the immediate academic setting and other future interaction contexts. Further, this academic language contact also occurs during a dynamic
period of ethnic identity development in children (Corenblum & Armstrong, 2012). Thus, the presence of the outgroup language should not lead to insecurity about an established ethnic identity but rather inform and encourage development of an ethnic identity.

**Conclusion**

To examine the implications of the increasing Latino population and by extension, the Spanish language, two studies examined the relationship between language contact, ethnolinguistic vitality, and uncertainty on both Latino attitudes and action tendencies. Study One found that when one is uncertain or certain about their group, greater language contact was associated with increases in prejudice and more negative action tendencies when the outgroup minority linguistic group is perceived to be high in status and as a distinctive group. When less uncertainty about one’s group and the outgroup linguistic group is perceived to be lower in status and less of a distinctive group, greater language contact was associated with more positive attitudes toward Latinos and action tendencies. Study Two found that when uncertain about one’s group membership and the outgroup is not perceived as a distinctive group and lower in status, more negative attitudes were found in the English language condition compared to the Spanish language condition. These conflicting findings suggest that language contact may provide an additional form of indirect intergroup contact which thus far has been largely unexamined. Given the scarce number of studies from the intergroup contact and uncertainty perspectives and the potential necessity due to the increasing Latino population in the United States, language contact warrants additional research which may prove to be an exciting extension in social psychological research.
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https://doi.org/10.1177/2F0146167293196005


https://doi.org/10.1177/2F0261927X970161002


53


Stopp, H. T., & Hogg, M. A. (in prep). Se habla español: The association between contact with the Spanish language and attitudes toward Latinos.


Appendix A
Study 1

**Group Uncertainty**
1. How uncertain do you feel about the future of the US as an English-speaking nation?
   
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<tbody>
<tr>
<td>Not Very Uncertain</td>
<td>Very Uncertain</td>
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2. How uncertain do you feel that English will remain the US’s sole official language?
   
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<td>Not Very Uncertain</td>
<td>Very Uncertain</td>
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</table>

3. How uncertain do you feel that English will remain the US’s predominant language?
   
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<tbody>
<tr>
<td>Not Very Uncertain</td>
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**Ethnolinguistic Vitality**
In this section, we are interested in your perceptions about Latinos in your area. You may feel that you have insufficient information at your immediate disposal to answer these questions, yet it is your *impressions* that we are interested in.

4. Estimate the *proportion* of your area’s population made up of Latinos:
   
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<tr>
<td>0%</td>
<td>100%</td>
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5. How highly regarded is the Spanish language in your area?
   
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<tbody>
<tr>
<td>Not at all</td>
<td>Extremely highly</td>
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6. How highly regarded is Spanish *internationally*?
   
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<tr>
<td>Not at all</td>
<td>Extremely highly</td>
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7. How often is Spanish used in your area’s government services (eg., health clinics, social welfare etc.)?
   
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<tr>
<td>Not at all</td>
<td>Exclusively</td>
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8. Estimate the *birth rates* of Latinos in your area:

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<td>Decreasing</td>
<td>Increasing</td>
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9. How much control do Latinos have over *economic* and *business* matters in your area?

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<tr>
<td></td>
<td>None at all</td>
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10. How well-represented is Spanish in your area’s *massmedia* (e.g. TV, radio, newspapers)?

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<td></td>
<td>Extremely well</td>
<td>Not at all</td>
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11. How highly regarded are Latinos in your area?

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<tr>
<td></td>
<td>Not at all</td>
<td>Extremely highly</td>
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12. In all parts of your area where Latinos live, to what extent are they in the majority or minority?

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<tbody>
<tr>
<td></td>
<td>Very small</td>
<td>Minority</td>
<td>Very large</td>
<td>Majority</td>
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13. How much is Spanish taught in the *schools* in your area?

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<td>Exclusively</td>
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14. How many Latinos *immigrate* into your area each year?

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<tbody>
<tr>
<td></td>
<td>Very many</td>
<td>Not at all</td>
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</table>
15. To what extent do Latinos marry only within their own group?
   
   1 2 3 4 5 6 7 8 9
   Not at all Exclusively

16. How much political power do Latinos have in your area?
   
   1 2 3 4 5 6 7 8 9
   Complete None at all

17. How well-represented is Spanish in business institutions in your area?
   
   1 2 3 4 5 6 7 8 9
   Not at all Exclusively

18. How many Latinos emigrate from your area to other countries each year?
   
   1 2 3 4 5 6 7 8 9
   Very much None at all

19. How proud of their cultural history and achievements are Latinos in your area?
   
   1 2 3 4 5 6 7 8 9
   Not at all Extremely

20. How frequently are Spanish used in churches and places of religious worship in your area?
   
   1 2 3 4 5 6 7 8 9
   Exclusively Not at all

21. How well-represented are Latinos in the cultural life of your area (e.g. festivals, concerts, art exhibitions)?
   
   1 2 3 4 5 6 7 8 9
   Not at all Extremely

22. How strong and active do you feel Latinos are in your area?
   
   1 2 3 4 5 6 7 8 9
   Not at all Extremely
23. How \textit{wealthy} do you feel Latinos are in your area?

\begin{tabular}{cccccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\
\text{Not at all} & & & & & & & & & \text{Extremely}
\end{tabular}

24. How \textit{strong} and \textit{active} do you feel Latinos will be 20 to 30 years from now?

\begin{tabular}{cccccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\
\text{Not at all} & & & & & & & & & \text{Extremely}
\end{tabular}

25. In general, how much contact is there between Caucasians and Latinos?

\begin{tabular}{cccccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\
\text{Very much} & & & & & & & & & \text{None at all}
\end{tabular}

\textbf{Language Contact}

26. How do you see or hear advertisements in Spanish (e.g. tv, newspapers, etc.)?

\begin{tabular}{cccccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\
\text{Not very} & & & & & & & & & \text{Very} \\
\text{Often} & & & & & & & & & \text{Often}
\end{tabular}

27. How often do you see billboards written in Spanish?

\begin{tabular}{cccccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\
\text{Not very} & & & & & & & & & \text{Very} \\
\text{Often} & & & & & & & & & \text{Often}
\end{tabular}

28. How often do you see signs in stores, companies, etc. written in Spanish?

\begin{tabular}{cccccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\
\text{Not very} & & & & & & & & & \text{Very} \\
\text{Often} & & & & & & & & & \text{Often}
\end{tabular}

29. How often do you hear music in Spanish?

\begin{tabular}{cccccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\
\text{Not very} & & & & & & & & & \text{Very} \\
\text{Often} & & & & & & & & & \text{Often}
\end{tabular}
30. How often do you hear coworkers speak in Spanish?

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<tbody>
<tr>
<td>Not very</td>
<td>Very</td>
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<td>Often</td>
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31. How often do you hear people in stores, restaurants, etc. speaking in Spanish?

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<tr>
<td>Not very</td>
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</tr>
</tbody>
</table>

32. How often do you hear friends/neighbors speaking in Spanish?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not very</td>
<td>Very</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Often</td>
<td>Often</td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

33. How often do you hear or see Spanish on television programs, films, etc?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not very</td>
<td>Very</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Often</td>
<td>Often</td>
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<td></td>
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</tbody>
</table>

34. How often do you see or hear a cultural event in Spanish?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not very</td>
<td>Very</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Often</td>
<td>Often</td>
<td></td>
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</tr>
</tbody>
</table>

**Intergroup Anxiety**

For each of the items listed below, indicate how you would feel when interacting with Latinos who you do not know.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td>Extremely</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comfortable</td>
<td>Comfortable</td>
<td></td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>
### Attitudes toward Latinos

My attitude toward Latinos is

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>36.</td>
<td>Not at all</td>
<td>Uncertain</td>
<td>Extremely</td>
<td>Uncertain</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37.</td>
<td>Not at all</td>
<td>Confident</td>
<td>Extremely</td>
<td>Confident</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38.</td>
<td>Not at all</td>
<td>Awkward</td>
<td>Extremely</td>
<td>Awkward</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39.</td>
<td>Not at all</td>
<td>Anxious</td>
<td>Extremely</td>
<td>Anxious</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40.</td>
<td>Not at all</td>
<td>At Ease</td>
<td>Extremely</td>
<td>at Ease</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41.</td>
<td>No</td>
<td>Respect</td>
<td>Extreme</td>
<td>Respect</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42.</td>
<td>No</td>
<td>Liking</td>
<td>Extreme</td>
<td>Liking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43.</td>
<td>No</td>
<td>Acceptance</td>
<td>Extreme</td>
<td>Acceptance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44.</td>
<td>No</td>
<td>Approval</td>
<td>Extreme</td>
<td>Approval</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
45.  
No  Warmth
At All

46.  
No  Openness
At All

Action Tendencies

47. To what extent do Latinos make you want to confront them?
    1  2  3  4  5  6  7  8  9
    Not at all  Very Much

48. To what extent do Latinos make you want to oppose them?
    1  2  3  4  5  6  7  8  9
    Not at all  Very Much

49. To what extent do Latinos make you want to argue with them?
    1  2  3  4  5  6  7  8  9
    Not at all  Very Much

50. To what extent do Latinos make you want to avoid them?
    1  2  3  4  5  6  7  8  9
    Not at all  Very Much

51. To what extent do Latinos make you want to have nothing to do with them?
    1  2  3  4  5  6  7  8  9
    Not at all  Very Much

52. To what extent do Latinos make you want to keep them at a distance?
    1  2  3  4  5  6  7  8  9
    Not at all  Very Much

53. To what extent do Latinos make you want to talk to them?
    1  2  3  4  5  6  7  8  9
    Not at all  Very Much
54. To what extent do Latinos make you want to find out more about them?
   1 2 3 4 5 6 7 8 9
   Not at all                               Very Much

55. To what extent do Latinos make you want to spend time with them?
   1 2 3 4 5 6 7 8 9
   Not at all                               Very Much

56. To what extent do Latinos make you want to be considerate toward them?
   1 2 3 4 5 6 7 8 9
   Not at all                               Very Much

Identification as an English-speaker

57. What is your overall impression of English Speakers?
   1 2 3 4 5 6 7 8 9
   Not very favorable                       Very favorable

58. How much would you stand up for English Speakers if they were criticized?
   1 2 3 4 5 6 7 8 9
   Not very much                            Very much

59. How strongly do you identify with being an English speaker?
   1 2 3 4 5 6 7 8 9
   Not very much                            Very much

60. How much do you feel you belong as an English Speaker?
   1 2 3 4 5 6 7 8 9
   Not very much                            Very much

61. How important to you is it being an English Speaker?
   1 2 3 4 5 6 7 8 9
   Not very much                            Very much
62. How much do you feel like an English Speaker as a whole?
   1 2 3 4 5 6 7 8 9
   Not very much
   Very much

63. How well do you feel you fit in as an English Speaker?
   1 2 3 4 5 6 7 8 9
   Not very much
   Very much

64. Overall, how similar do you feel you are to other English Speakers?
   1 2 3 4 5 6 7 8 9
   Not very much
   Very much

Demographic
65. How well do you understand Spanish?
   1 2 3 4 5 6 7 8 9
   Not at All
   Completely Understand

66. How well do you speak Spanish?
   1 2 3 4 5 6 7 8 9
   Not at All
   Fluent

67. How well do you read Spanish?
   1 2 3 4 5 6 7 8 9
   Not at All
   Fluent

68. How well do you write in Spanish?
   1 2 3 4 5 6 7 8 9
   Not at All
   Fluent
69. In what country were you born?
   ___ The United States
   ___ Outside the United States

70. How much time have you spent outside the United States?
   ___ Never been outside The United States
   ___ Less than a month
   ___ one to three months
   ___ four to six months
   ___ over six months

71. How many Spanish-speaking friends do you have?

   1  2  3  4  5  6  7  8  9

   None  Many

72. Sex
   ___ Male
   ___ Female

73. Age
   ___ 18 to 24
   ___ 25 to 35
   ___ 35 to 45
   ___ 45 to 55
   ___ over 55

74. Ethnicity
   ___ Caucasian/ white –non-Hispanic/Latino
   ___ African American
   ___ Hispanic/Latino
   ___ Asian
   ___ Other-Hispanic/Latino
   ___ Other non-Hispanic/Latino
Appendix B
Study 2

**Ethnolinguistic Vitality Prime**

High Vitality:

Now, please list three of these things.

Low Vitality:

Please take a few minutes and think about all the ways that Latinos and the Spanish language are becoming less prominent and prestigious. Now, please list three of these things.

**Uncertainty Prime**

High Uncertainty:

Please take a few minutes and think of all the things that make you feel uncertain about being an English-speaker. Now, please list three of the things that make you feel uncertain.

Low Uncertainty:

Please take a few minutes and think of all the things that make you feel certain about being an English speaker. Now, please list three of the things that make you feel certain.

**Language Contact**

English Condition

We are going to show you a number of pictures. Please study each picture. You will be asked to answer questions about each picture shown.

These pictures are
a) Billboards
b) Street names
c) Street signs
d) Advertisements

These pictures are

a) Blue
b) Black
c) Red
d) Green

This picture is a

a) Billboard
b) Street name
c) Street sign
d) Advertisement

This picture showed

a) A dog
b) A house
c) A soda
d) A girl
What was on the picture?

a) A soda  
b) a manatee  
c) food  
d) a house

What color was the picture?

a) Green  
b) Blue  
c) Black  
d) Red
Spanish Condition:

We are going to show you a number of pictures. Please study each picture. You will be asked to answer questions about each picture shown.

These pictures are

a) Billboards
b) Street names
c) Street signs
d) Advertisements

These pictures are

a) Blue
b) Black
c) Red
d) Green
This picture is a

a) Billboard
b) Street name
c) Street sign
d) Advertisement

This picture showed

e) A dog
f) A house
g) A soda
h) A girl
What was on the picture?

a) A soda
b) a manatee
c) food
d) a house

What color was the picture?

a) Green
b) Blue
c) Black
d) Red