HHS Public Access

Author manuscript

Cross Cult Res. Author manuscript; available in PMC 2021 June 15.

Published in final edited form as:

Cross Cult Res. 2019 February ; 53(1): 87–115. doi:10.1177/1069397118774504.

Why do Latino Survey Respondents Acquiesce? Respondent and Interviewer Characteristics as Determinants of Cultural Patterns of Acquiescence among Latino Survey Respondents

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Abstract

Research indicates that Latino survey respondents are more likely to acquiesce than non-Latino European Americans, thereby decreasing the potential for measurement invariance across cultural groups. In order to better understand what drives this culturally patterned response style, we examined the influence of respondent and interviewer characteristics on acquiescence. Data were obtained from a telephone survey of 400 Mexican American, Puerto Rican, Cuban American, and non-Latino European American respondents and a self-administered survey of 21 interviewers. Higher acquiescence was associated with several respondent characteristics: older age, lower education, stronger Latino cultural orientation, Spanish use, Latino ethnicity, and, among Latinos, Cuban American ethnicity. In contrast, acquiescence was not influenced by respondent-interviewer social distance, social deference, or interviewer characteristics (e.g., education, gender, acculturation, interviewer experience). These findings indicate that acquiescence differs across Latino ethnic subgroups and that respondent and language factors are more influential determinants of acquiescence than survey interviewers.

Keywords

Latino; social deference; social distance; acquiescence; survey methodology; language; interviewers

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Introduction

Survey data are widely used to compare values, attitudes, and beliefs across cultural groups. However, the validity of such data may be compromised by response styles such as acquiescence, in which respondents systematically agree with survey items, regardless of item content or directionality (Baumgartner and Steenkamp 2001). Acquiescence has been shown to invoke error in estimating scale scores and variances (Ware 1978, Baumgartner and Steenkamp 2001, Weijters, Schillewaert, and Geuens 2008, Cheung and Rensvold 2000, Hoffman, Mai, and Cristescu 2013), scale reliability statistics (Billiet and Davidov 2008), relationships among variables (Baumgartner and Steenkamp 2001), model fit statistics (Billiet and McClendon 2000, Welkenhuysen-Gybels, Billiet, and Cambre 2003), and factor analysis structures (Winkler, Kanouse, and Ware 1982). Research also indicates that acquiescence is more likely to occur during telephone surveys than face-to-face (Holbrook, Green, and Krosnick, 2003; Jordan, Marcus, and Reeder 1980), paper-and-pencil (Weijters, Schillewaert, and Geuens 2008), or web-administered surveys (Weijters, Schillewaert, and Geuens 2008).

The use of acquiescence by survey respondents has been shown to be culturally patterned. Previous research indicates that acquiescence differs across countries (Johnson et al. 2005, Harzing 2006, de Jong et al. 2008, Hoffman, Mai, and Cristescu 2013), and, within the U.S., is of particular concern when surveying Latino populations, who tend to acquiesce at higher rates than non-Latino European Americans (EAs; Ross and Mirowsky 1984, Warnecke et al. 1997, Marín, Gamba, and Marín 1992, Aday, Chiu, and Andersen 1980). This culturally patterned difference in responding is problematic for social science research, as it may artificially accentuate or minimize distinctions between Latinos and other social groups. Acquiescence may also affect comparisons among Latino subgroups. Latinos are sociodemographically and culturally diverse, yet almost nothing is known about patterns of acquiescence among Latino ethnic subgroups. The Latino population comprises 16% of the U.S. population and is expected to increase to 29% by 2050 (Ennis, Rios-Vargas, and Albert 2011). Acquiescence therefore represents a growing concern for both Latino-focused and general population surveys.

Despite a sizeable literature on response styles, relatively little work has examined why the use of acquiescence is culturally patterned. Longitudinal research indicates that acquiescence is a relatively stable respondent characteristic (Billiet and Davidov 2008, Weijters, Geuens, and Schillewaert 2010, Bachman and O'Malley 1984), indicating that respondent factors have a strong influence on acquiescence. Yet, even highly acquiescent respondents do not always acquiesce. Respondents have been shown to engage in different levels of acquiescence across survey items (Kam and Zhou 2015, De Beuckelaer, Weijters, and Rutten 2010) and administration modes (Weijters, Schillewaert, and Geuens 2008, Jordan, Marcus, and Reeder 1980). Thus, respondent factors do not entirely explain acquiescence. Baumgartner and Steenkamp (2001) proposed that response styles are produced by a combination of respondent and contextual factors. In other words, while certain individuals may have a greater tendency to acquiesce, these tendencies may only emerge in particular contexts. However, research is needed to identify these contextual

determinants, as well as to examine the effects of interactions between respondent-level and contextual-level influences on acquiescence.

In order to better understand why acquiescence is culturally patterned, this study examined nine competing hypotheses about three potential determinants of acquiescence among Latino survey respondents: respondent characteristics, interviewer characteristics, and language use. Although survey interviews represent a unique type of social interaction, interviewers and respondents likely enact what they each perceive to be normative cultural behaviors during these social exchanges. Thus, it is important to examine both respondent and interviewer contributions to acquiescence. It had been documented that interviewers can systematically influence respondents' answers to survey questions (Davis et al. 2010); however, few studies have explored the influence of interviewer characteristics on acquiescence. This study investigates influences on acquiescence among an ethnically diverse sample of 400 Mexican American, Puerto Rican, Cuban American, and EA telephone survey respondents.

Respondent Hypothesis

In addition to Latino ethnicity, several respondent characteristics appear to have a strong influence on acquiescence. Previous studies indicate that acquiescence decreases with education (Weijters, Geuens, and Schillewaert 2010, Narayan and Krosnick 1996, Meisenberg and Williams 2008, Davis, Resnicow, and Couper 2011, Marín, Gamba, and Marín 1992) and increases with age (Weijters, Geuens, and Schillewaert 2010, Ross and Mirowsky 1984, Meisenberg and Williams 2008). Research on gender is mixed, with some studies finding that women acquiesce more than men (Weijters, Geuens, and Schillewaert 2010, Marín, Gamba, and Marín 1992), some studies finding that men acquiesce more than women (Ross and Mirowsky 1984), and other studies finding no gender differences (Marín, Gamba, and Marín 1992). In two of three samples of Latinos, Marín and colleagues (1992) found that acquiescence decreased with acculturation, which was operationalized as lower use of Spanish and less interaction with Latinos. In research with Mexican Americans, Davis et al. (2011) similarly found a positive association between Spanish use and acquiescence; however, the amount of respondents' interaction with Mexican Americans did not influence acquiescence. Altogether, this research on respondent factors informed our first hypothesis:

Respondent Hypothesis—Acquiescence will be negatively associated with education and acculturation and positively associated with age and Latino ethnicity.

Gender and Latino ethnic subgroup identity were also included in the analysis; however, as the literature lacks strong guidance, no predictions were made. Since interviewer characteristics were excluded, the Respondent Hypothesis provided a comparison for the hypotheses below.

Interviewer Effects Hypotheses

The social attribution model proposes that survey respondents edit their responses according to their perceptions of their interviewer's values and beliefs, as cued by interviewer sociodemographic characteristics, in order to present themselves positively and/or avoid

offending the interviewer (Johnson et al. 2000). During telephone-administered surveys, research indicates that respondents' perceptions of their interviewer's characteristics have a stronger influence on their survey responses than their interviewers' objective characteristics (Davis and Silver 2003, Davis 1997). One might postulate that interviewers whom respondents perceive to be more educated, and perhaps also older, elicit more acquiescence. We are not aware of any studies of perceived interviewer characteristics and acquiescence. However, four studies have examined the influence of objective interviewer characteristics on acquiescence. No effects were found for interviewer age (Hox, de Leeuw, and Kreft 1991, Olson and Bilgen 2011, Warnecke et al. 1997) or education (Olson and Bilgen 2011, Warnecke et al. 1997). Two studies found no effect for interviewer gender (Olson and Bilgen 2011, Warnecke et al. 1997), while a third observed either no effect or more acquiescence for male interviewers across 11 Asian countries (Liu & Wang, 2016). If acquiescence is normative within Latino culture, acquiescence may also be affected by interviewers' cultural orientations, as interviewers who more strongly identify with Latino culture may be more likely to be accepting of acquiescent responses. Based on this thinking, we tested the following comparative hypotheses:

Interviewer Effects Hypothesis #1—Interviewer age, gender, and education, whether objective or perceived, will have no effect on respondent acquiescence.

Interviewer Effects Hypothesis #2—Respondent acquiescence will be associated with objective interviewer acculturation, such that higher acquiescence is observed when interviewers have a stronger orientation toward Latino culture than toward EA culture.

The literature on interviewer experience is mixed but suggests a generally positive influence on survey data quality, even for as little as two weeks of interviewer experience (Hansen 2007). More experienced interviewers have obtained higher response rates (Hansen 2007, Jackle et al. 2013, Lipps and Pollien 2011), more reports of mental health symptoms (Cleary, Mechanic, and Weiss 1981), more open-ended responses (Feldman, Hyman, and Hart 1951), higher data validity (Feldman, Hyman, and Hart 1951), and higher data quality scores (Titus et al. 2012). Only two studies have examined interviewer experience and acquiescence. Hox, de Leeuw, and Kreft (1991) found no relationship between interviewer experience and acquiescence in the Netherlands, while Olson and Bilgen (2011) found higher acquiescence in interviews administered by experienced interviewers in two national U.S. surveys. Olson and Bilgen posited that more experienced interviewers may be more likely to engage in rapport-building behaviors that inadvertently encourage acquiescence. Since our study was also conducted in the U.S., we resolved to test the following hypothesis:

Interviewer Effects Hypothesis #3—As interviewer experience increases, acquiescence will increase.

Social Distance Hypotheses

The social distance model, a subtype of the conditional social attribution model (Fendrich et al. 1999), suggests that respondents edit their answers not only in response to perceived interviewer characteristics, but also in response to their perceived similarity to their

interviewers (Johnson et al. 2000, Johnson and Parsons 1994). Perceived social distance, like other interviewer effects, may encourage or discourage acquiescence as respondents seek to present themselves more favorably and/or avoid giving offense. Katz (1942) demonstrated that blue collar respondents' answers to social attitude questions varied when interviewed by blue collar versus white collar interviewers. However, Freeman and Butler (1976) found no significant differences in responses to high-socioeconomic status (SES) interviewers from respondents with varying occupations. Johnson and colleagues (2000) examined drug use reporting and social distance (based on respondent-interviewer similarities in age, gender, education, race, and ethnicity), observing that respondents appeared more likely to respond truthfully to sensitive questions when social distance was low. Since Latino culture is often associated with hierarchical social structures (Torres, Solberg, and Carlstrom 2002), we predicted that social distance might similarly influence acquiescence:

Linear Social Distance Hypothesis—As respondents perceive greater social distance between themselves and their interviewers, acquiescence will increase.

In contrast to the linear social distance model, Dohrenwend, Colombotos, and Dohrenwend (1968) proposed a curvilinear social distance model in which interviewer effects increase when social distance is excessively small or excessively large. Support for this model is derived from two studies from the 1960s. In the first study, high-SES African American and EA interviewers surveyed African American respondents classified as low or high SES (Williams 1964). No interviewer race effects were observed for high-SES respondents or when low- or medium-threat questions were asked. However, interviewer race effects were observed for high-threat questions administered to low-SES respondents, suggesting that greater social distance yielded more biased responses for high-threat survey items (Williams 1964). The second study found that low-income African American respondents provided more accurate responses to African American interviewers who were more sociodemographically dissimilar to themselves, suggesting that low social distance may also invoke bias (Weiss 1968–1969). In the only study that has tested the curvilinear social distance model, however, Johnson and colleagues (2000) found more support for a linear than a curvilinear social distance model for drug use reporting. We also compared these models by testing the following hypothesis:

Curvilinear Social Distance Hypothesis—As respondents perceive greater social distance between themselves and their interviewers, their use of acquiescence will decrease and then increase in a curvilinear pattern.

Social Deference Hypothesis

A competing explanation is that respondents acquiesce as a form of social deference toward their interviewers. For example, studies have found higher rates of acquiescence among blue collar respondents interviewed by white collar interviewers (Lenski and Leggett 1960) and among African American respondents interviewed by EAs (Lenski and Leggett 1960, Carr 1971). Ross and Mirowsky (1984) observed an inverse association between SES and acquiescence among Mexican, Mexican American, and EA respondents, noting that acquiescence may be related to other strategies for minimizing risk of discomfort or harm

during interactions with people with greater social power. As Carr (1971) noted, "acquiescence has proved to be, historically, an effective, rational tactic for survival" in a society structured by race and class (p. 291). In order to evaluate this premise, we tested the following hypothesis:

Social Deference Hypothesis—Acquiescence will be greater among respondents who perceive themselves to have a lower social status than their interviewers than for respondents who perceive themselves to have a similar to or higher social status than their interviewers.

Language Use Hypotheses

Language is a part of culture, as it both shapes and provides a means of communicating about culturally affiliated values, attitudes, behaviors, and beliefs. Research with bilingual speakers indicates that language use is associated with cultural mindsets – in other words, people demonstrate cognitive processes that are culturally congruent with the language they are using (Lee, Oyserman, and Bond 2010, Ross, Xun, and Wilson 2002). Mexican American bilinguals, for example, have been observed to provide more collectivist responses and identify more with Mexican culture when completing a survey in Spanish than in English (Lechuga 2008). We are not aware of research on language use and acquiescence; however, related research on extreme response style suggests that language use can influence use of survey response styles. Gibbons, Zellner, and Rudek (1999) found that extreme response style was more common when bilingual respondents completed a survey in Spanish than in English, especially when their first language was Spanish. Similarly, Harzing (2006) observed that respondents in 26 countries were more likely to use extreme response style when completing a survey in languages other than English.

If acquiescence is affiliated with Latino culture, then being in a Spanish-language context during an interview may, in turn, cue a cultural mindset that enhances acquiescence. For example, Latino culture has been characterized as attentive to social hierarchy, which involves expressing respect (*respeto*) for people with authority or higher social status (Marín and Marín 1991, Torres, Solberg, and Carlstrom 2002). *Respeto* and other cultural values may therefore encourage acquiescence as a culturally normative response during interviewer-administered surveys, especially if the interviewer is perceived as a person of authority. Cultural norms related to *simpatía*, which is a Latino cultural value for being pleasant, agreeable, likeable, non-confrontational, and respectful in interpersonal interactions (Triandis et al. 1984, Marín and Marín 1991), may similarly guide respondents to acquiesce as a means of demonstrating agreeableness and avoiding causing offense to the interviewer. Previous studies indicate an inverse association between acculturation and acquiescence among Latinos (Marín, Gamba, and Marín 1992), positive associations between *simpatía* and familism (*familismo*) and acquiescence among Mexican Americans (Davis, Resnicow, and Couper 2011), and higher acquiescence among Mexicans than Mexican Americans in the U.S. (Ross and Mirowsky 1984). If language use cues Latino culture and Latino culture increases acquiescence, then acquiescence will be more pronounced when Latino respondents are speaking Spanish than speaking English. It is also likely that a respondent's first language (the language they first learned as a child) influences

these relationships, with native Spanish speakers being most likely to acquiesce during Spanish-language interviews. We therefore predicted the following:

Language Use Hypothesis #1—Acquiescence will be higher when respondents complete the survey in Spanish (vs. English).

Language Use Hypothesis #2—Interview language and first language will interact, yielding highest acquiescence when respondents' first language and interview language are both Spanish, lowest acquiescence when respondents' first language and interview language are both English, and low to moderate acquiescence when respondents' first language and interview language are a mixture of Spanish and English.

Methods

Participants

Telephone Survey—Participants were recruited by randomly selecting numbers from a list of landline and cellular telephone numbers in the U.S. and Puerto Rico obtained from a commercial vendor. Telephone numbers were associated with mailing addresses located in the five largest U.S. markets for each of the three Latino ethnic subgroups or Puerto Rico, individuals with 12 years of education or less, and households with an annual income of $25,000 or less. These criteria targeted a more acquiescent sample, since previous studies have observed inverse associations between acquiescence and education (De Beuckelaer, Weijters, and Rutten 2010), as well as income (Meisenberg and Williams 2008, Warnecke et al. 1997, Greenleaf 1992a). Telephone numbers were randomly assigned to interviewers. For cellular numbers, the person who answered the telephone was screened for eligibility. For landline numbers, an adapted, within-household selection method was used to minimize gender bias (Lavrakas 2008). Respondents were eligible to participate if they were aged 18 to 90, spoke English or Spanish, and self-identified as Mexican American, Cuban American, Puerto Rican, or EA, with the goal of recruiting approximately 100 respondents within each ethnic group. A total of 400 telephone survey respondents enrolled in the study, yielding a response rate of 10.1% using the American Association for Public Opinion Research (AAPOR) Response Rate 3 formula (AAPOR 2016).

Interviewer Survey—The telephone survey was administered by a team of 33 interviewers from a commercial interviewing company. Of these, 22 interviewers were still working on the survey at the end of the fielding period and were invited to participate in a self-administered, paper-and-pencil survey. Interviewers were recruited using a letter from the study team, which was placed in an envelope with informed consent materials and a self-administered questionnaire. The envelopes were distributed to the interviewers by human resources personnel at the interviewing company. The letter, informed consent materials, and human resources personnel emphasized that participation in the interviewer survey was voluntary and would have no effect on interviewers' employment status. Interviewers' participation status was kept confidential from their supervisors. Of the 22 interviewers invited to participate, one refused and 21 completed the survey, yielding a 95.5% response rate (AAPOR Response Rate 1; AAPOR 2016).

Data Collection

Telephone Survey—The 35-minute telephone survey was conducted between November 2015 and January 2016 using computer-assisted telephone interviewing. All interviews were conducted in Spanish or English. Language choice was assessed during eligibility screening using three items adapted from the National Latino and Asian American Study (Center for Multicultural Mental Health Research 2002) to identify which language respondents typically used when talking and thinking. Respondents were then asked to confirm that selection ("It sounds like you would be most comfortable if we conducted this interview in [Spanish/English]. Does this sound okay to you?"), which determined language use for the remainder of the interview. Each participant who completed the survey received a $20 gift card to a retail store.

Interviewer Survey—The interviewer survey took approximately 20 minutes to complete and was only provided in English, as all of the interviewers were fluent in English. The interviewers put their completed questionnaires and consent forms in pre-addressed, pre-stamped return envelopes and returned their sealed envelopes to the human resources staff, who mailed the envelopes to the study staff. Each participant received a $20 gift card to a retail store.

Materials and procedures for both surveys were reviewed and approved by a university-affiliated Institutional Review Board.

Measures

When possible, pre-existing translations of telephone survey materials were used from reputable sources (e.g., national surveys) or previous research by the study team. Pre-existing and new translations were reviewed by multiple bilingual study team members, as well as a professional translation company specializing in Latin American dialects. The potential for acquiescence error was mitigated by using fully labeled response scales and avoiding disagree-agree response scales. Question wording is provided in Appendix A.

Sociodemographics (Telephone Survey)—Single items measured age, race, ethnicity, gender, marital status, income, education, birth country, and first language learned as a child. Acculturation was assessed for Latino respondents only using an adapted, 27-item version of the Acculturation Rating Scale for Mexican Americans II (ARSMA-II; Cuellar, Arnold, and Maldonado 1995), which contained two subscales: (1) a Latino orientation subscale (LOS) that explored respondents' use of Spanish, identification with their Latino subgroup, affinity for their subgroup's culture, and interaction with people from their subgroup (15 items; α=.84); and (2) an EA, or Anglo, orientation subscale (AOS) that queried use of English, identification as an Anglo American, affinity for Anglo American culture, and interaction with EAs (12 items; α=.90). The interviewers reported the language used during each interview by rating a single item immediately after completing each survey.

Acquiescence (Telephone Survey)—The telephone survey contained 80 items that were selected by the study team to encourage and assess acquiescence. All items measured agreement with attitude statements using a 7-point, Likert response scale with endpoint-only

response labels (1="strongly disagree"/7="strongly agree"). Consistent with previous research (Baumgartner and Steenkamp 2001, Greenleaf 1992b, a), the items assessed heterogeneous topics to mitigate the confounding of acquiescence with item content. Forty-four items were paired items, and the order of the items was randomized across respondents. The internal consistency reliability of the acquiescence measure (based on the original 1–7 scores without recoding to accommodate for reverse scoring) was α=.87. The mean correlation between items was 0.13 (median=0.13; range=0.73). Similar to methods used by Baumgartner and Steenkamp (2001), each item was recoded to capture the direction and intensity of acquiescence by converting the original responses as follows: 1, 2, 3, and 4 were converted to 0; 5 was converted to 1; 6 was converted to 2; and 7 was converted to 3. The acquiescence variable is the mean of these recoded responses across all 80 items.

Perceived Interviewer Characteristics (Telephone Survey)—As in other studies (Davis and Silver 2003, Davis 1997), respondents' perceptions of selected interviewer characteristics were assessed at the end of the questionnaire by asking respondents to share their "impressions or guesses" about their interviewer. Five perceived interviewer characteristics were assessed: gender; age; education; race/ethnicity; and, if the respondent perceived their interviewer as Latino, which Latin American country or region best described the interviewer's ethnic heritage. These questions were as similar as possible to those used to assess the respondent characteristics; however, age ranges were provided for the age question, as it was believed to be too difficult for respondents to estimate a specific interviewer age.

Social Distance: The social distance measure was created by assigning one point each time a respondent's characteristic matched their perception of the corresponding interviewer characteristic for four variables: age, education, gender, and Latino ethnicity. The social distance measure ranged from 0 (low matching/high distance) to 4 (high matching/low distance).

Social Deference: The social deference measure was constructed using respondent age, respondent education, perceived interviewer age, and perceived interviewer education. Other characteristics were excluded because we did not feel comfortable making assumptions about when respondents would feel they were of a lower, similar, or higher social status than their interviewer. The social deference variable was coded as missing if age and education were both missing, which occurred for three cases. Otherwise, a score of 1 indicated a lower social status for the respondent than their interviewer, 2 indicated a similar social status for the respondent and their interviewer, and 3 indicated that the respondent had a higher social status than their interviewer. Additional coding details are included in Appendix A.

Objective Interviewer Characteristics (Interviewer Survey)—The interviewer survey included the following items from the telephone survey: age; race; ethnicity; first language; country of birth; gender; marital status; income; education; and acculturation (LOS α=.84; AOS α=.80). Additional items measured years of interviewer experience, number of hours currently per week working as an interviewer, other employment, and the Latin American country or region that best described the interviewer's ethnic heritage.

Data Analysis

All analyses were conducted using the SAS® software program, Version 9.4 of the SAS System for Windows (copyright © 2013, SAS Institute Inc., Cary, NC). To control for the clustering of respondents by interviewers, all hypotheses were initially tested by linking respondent study identification numbers to interviewer identification numbers and using the SAS proc mixed procedure for linear mixed models to estimate fixed effects associated with data obtained from respondents and random effects resulting from the assignment of respondents to interviewers. However, the results of these models indicated that controlling for the clustering of respondents by interviewers was unnecessary. As the linear mixed modeling results were consistent with those generated through general linear models without the clustering effects using the SAS proc GLM procedure, we present the results of the general linear models, which are more useful for interpretation because they allowed us to generate R-squared values.

Two models tested the Respondent Hypothesis: Model 1 with only Latino participants and Model 2 with Latino and EA participants. The Interviewer Effects Hypotheses were tested via two models, as two interviewer experience variables were examined: years of experience (Model 3); and an index variable combining years of interviewer experience, the number of hours worked per week as an interviewer, and additional employment (Model 4). These models used objective interviewer characteristics for acculturation, age, gender, and education, as perceived interviewer acculturation was not assessed. Single models were used to test the Linear Social Distance Hypothesis (Model 5), Curvilinear Social Distance Hypothesis (Model 6), and Social Deference Hypothesis (Model 7). Two models were estimated to examine interview language and first language (Language Use Hypothesis #1, Model 8) versus the interaction between these variables (Language Use Hypothesis #2, Model 9). Models 8 and 9 included acculturation, though this restricted the sample to Latinos. All models controlled for respondent age, education, gender, and ethnicity. Effect sizes were calculated using the SAS proc GLM procedure. Partial eta-squares (η_p^2) are reported, as recommended for regression models (Richardson, 2011), and interpreted using thresholds provided by Cohen (1969). Due to the relatively small sample size, large effect sizes were not anticipated.

The 21 interviewers who completed the interviewer survey administered 343 (85.5%) of the telephone surveys. The analytical sample for models using data from the interviewer surveys was therefore restricted to 343 respondents.

Results

Participants

The majority of Latino respondents were strongly orientated toward Latino culture (60%) and had learned Spanish as their first language (62%; Table 1). Approximately half of the interviews were completed in Spanish (51%). Most respondents perceived themselves to be from a lower (58%) or higher (33%) social status than their interviewer and sharing 1–2 sociodemographic characteristics (75%).

Most interviewers self-identified as Mexican American (67%) and had learned Spanish as their first language (76%). On average, interviewers had three years of experience and were working about 28 hours a week.

Influence of Interviewer Workload

Initial models controlled for the clustering of respondents by interviewers, but these adjustments appeared unnecessary. The largest intraclass correlation (ICC) was 0.02 for the intercept-only model, and, after predictor variables were added, the ICCs were greatly reduced, in some cases to 0. Despite large variation in the number of interviews completed by each interviewer (1 to 59), mean acquiescence scores did not vary across interviewers (mean=1.46; 95% confidence level: [1.42, 1.50]).

Respondent Hypothesis

Among Latinos (Table 2, Model 1), a mostly Latino (p=.002) or high bicultural orientation (p=.002), older age (p=.009), and lower education (p<.0001) were associated with higher acquiescence. Women were marginally more likely to acquiesce than men (p=.06), while Cuban Americans were more likely to acquiesce than Mexican Americans (p=.05) or Puerto Ricans (p=.02). The estimated effect sizes mirrored the statistical significance. Education had the largest effect on acquiescence (η_p^2=.11), followed by acculturation (η_p^2=.05), age (η_p^2=.03), and ethnicity (η_p^2=.02). As expected, these effect sizes were small. Model 2, which included Latinos and EAs, found a positive association between acquiescence and age (p<.0001) and an inverse association between acquiescence and education (p<.0001). Model 2 also found higher acquiescence among women (p=.03). EA respondents were significantly less likely to acquiesce than Mexican Americans (p=.0001), Puerto Ricans (p<.0001), or Cuban Americans (p<.0001). Education again had the largest effect size (η_p^2=.13), followed by ethnicity (η_p^2=.10) and age (η_p^2=.04). Together, Models 1 and 2 provided strong support for the Respondent Hypothesis.

Interviewer Effects Hypotheses

Objective interviewer acculturation, age, gender, education, and experience had no significant effects on acquiescence when controlling for respondent characteristics (Table 3, Models 3 and 4). Thus, we found no support for the Interviewer Effects Hypotheses. However, strong relationships were observed for respondent characteristics. In both models, acquiescence was associated with lower education (p<.0001) and older age (p=.0001 in Model 3; p=.0002 in Model 4), and Mexican Americans (p<.0001), Puerto Ricans (p<.0001), and Cuban Americans (p<.0001) were more likely to acquiesce than EAs. Female respondents were marginally more likely to acquiesce (p=.06). Identical effect sizes were observed in both models for education (η_p^2=.12), ethnicity (η_p^2=.12), and age (η_p^2=.05).

Social Distance Hypotheses

Respondents were very accurate in estimating their interviewer's gender (99% correct) and moderately accurate in estimating whether their interviewer was Latino (74% correct). However, respondents were more often incorrect than correct when guessing their

interviewer's age (42% correct), Latino ethnic heritage (26% correct), or education level (23% correct).

Respondents' perceived social distance from their interviewer had no influence on their use of acquiescence (Table 4, Model 5). Therefore, no support was found for the Linear Social Distance Hypothesis. Acquiescence was positively associated with age (p<.0001), inversely associated with education (p<.0001), and higher among Mexican Americans (p=.0002), Puerto Ricans (p<.0001), and Cuban Americans (p<.0001) than EAs. Education had a moderate effect size (η_p^2=.14), followed by ethnicity (η_p^2=.09) and age (η_p^2=.05). Similarly, no significant association was observed between the squared social distance variable and acquiescence (Table 4, Model 6). Hence, we did not find support for the Curvilinear Social Distance Hypothesis. Acquiescence was higher among respondents who were older (p<.0001), had lower educational attainment (p<.0001), or self-identified as Mexican American (p=.0002), Puerto Rican (p<.0001), or Cuban American (p<.0001). Education had a moderate effect size (η_p^2=.14), followed by ethnicity (η_p^2=.09) and age (η_p^2=.05). Alternate versions of Models 5 and 6 using social distance variables based on objective interviewer characteristics found identical patterns of results (data not shown).

Social Deference Hypothesis

Table 4 (Model 7) indicates that respondents were no more likely to acquiesce to interviewers whom they perceived to be of a lower or higher social status as themselves. Accordingly, we found no support for the Social Deference Hypothesis. Respondents were more likely to acquiesce if they were older (p<.0001), less educated (p<.0001), female (p=.04), or of Mexican American (p<.0001), Puerto Rican (p<.0001), or Cuban American (p<.0001) ethnicity. Education (η_p^2=.11), ethnicity (η_p^2=.10) and age (η_p^2=.04) had small effect sizes. An alternate version of Model 7 using a social deference variable based on objective interviewer characteristics yielded the same pattern of results (data not shown).

Language Use Hypotheses

Table 5 (Model 8) indicates that acquiescence was higher for interviews conducted in Spanish (p=.005), which was supportive of Language Use Hypothesis #1. Support was also found for Language Use Hypothesis #2 (Model 9), as there was a significant interaction between interview language and first language (p=.04). When compared to respondents whose interview language and first language were English, respondents whose interview language and first language were Spanish were significantly more likely to acquiesce (p=.005), but no other language combinations were significant. In Models 8 and 9, higher acquiescence was associated with older age (p=.04 and .05, respectively), lower education (p<.0001), and Cuban American as compared to Puerto Rican ethnicity (p=.04). Increased acquiescence was also marginally associated with female gender in Model 8 (p=.10), Cuban American rather than Mexican American ethnicity in Models 8 (p=.07) and 9 (p=.08), and having a high bicultural orientation as compared to a more EA cultural orientation in Models 8 (p=.02) and 9 (p=.03). In Model 8, education had a medium effect size (η_p^2=.13), followed by interview language (η_p^2=.03), acculturation (η_p^2=.02), and age (η_p^2=.02). A similar pattern was observed in Model 9, where education had a medium effect size (η_p^2=.13), followed by the interaction between interview language and first language (η_p^2=.03),

acculturation (η_p^2=.02), and age (η_p^2=.02). As compared to the more EA cultural orientation, there were no significant influences of the low bicultural and more Latino acculturation categories on acquiescence in Models 8 or 9.

Models 8 and 9 were also estimated without acculturation, which allowed for inclusion of EAs (data not shown). Results generally followed those described above. In the first model, EAs were significantly less likely to acquiesce than Cuban Americans (p=.0003), Puerto Ricans (p=.02), or Mexican Americans (p=.04). In the second model, EAs were significantly less likely to acquiesce than Cuban Americans (p=.02), but no other ethnic differences were observed.

Discussion

This study found strong support for respondent characteristics as determinants of acquiescence. Latino ethnicity was associated with higher acquiescence, consistent with prior studies (Aday, Chiu, and Andersen 1980, Marín, Gamba, and Marín 1992, Ross and Mirowsky 1984, Warnecke et al. 1997). Older age and lower education were also associated with increased acquiescence, providing further evidence that these characteristics are influential determinants of acquiescence (Davis et al. 2010, Marín, Gamba, and Marín 1992, Meisenberg and Williams 2008, Narayan and Krosnick 1996, Weijters, Geuens, and Schillewaert 2010). As in previous studies (Weijters, Geuens, and Schillewaert 2010, Marín, Gamba, and Marín 1992), data from this study also suggest a mild trend toward higher acquiescence among female respondents.

This study also provides support for less-studied, respondent-level cultural characteristics as determinants of acquiescence. The findings that Latino respondents acquiesced more than EAs, as well as that Latino respondents were more likely to acquiesce if they had a stronger Latino cultural orientation (i.e., lower acculturation), suggest that values, attitudes, or beliefs associated with Latino culture encourage acquiescence. These findings are consistent with a growing literature indicating that specific cultural traits, such as collectivism (Smith 2004, Johnson et al. 2005, Harzing 2006), familism (Davis, Resnicow, and Couper 2011, Smith 2004), and gender roles (Davis, Resnicow, and Couper 2011) are associated with higher acquiescence. Despite evidence that Latinos are sociodemographically and culturally heterogeneous (Ramirez 2004, Ponce and Comer 2003, Marín and Marín 1991, Zambrana 1995, Altarriba and Bauer 1998, Ennis, Rios-Vargas, and Albert 2011), few studies have examined acquiescence among multiple Latino ethnic subgroups. Our finding that Cuban Americans acquiesced more than Mexican American or Puerto Rican respondents while controlling for acculturation, language use, and other sociodemographic characteristics underscores the heterogeneity of Latino ethnic subgroups and suggests that ethnic subgroups may have distinct patterns of acquiescence. It is not clear what is driving these ethnic subgroup differences; however, differences in cultural norms may account for these communication-related differences. For example, previous research has observed a positive association between value for *simpatía* and acquiescence among Mexican American survey respondents (Davis, Resnicow, and Couper 2011), and at least two recent studies have found higher endorsement of *simpatía* among Cuban Americans than Puerto Ricans or Mexican Americans (Merz et al. 2016; Davis, Lee, Johnson, & Rothschild, 2018). It is possible that

Cuban Americans are more attentive to *simpatía* during survey interactions and that this attentiveness, in turn, encourages more acquiescent responses. As a single element of Latino culture, *simpatía* is likely to covary and interact with other Latino cultural values. Thus, further research is needed to examine *simpatía* and other cultural factors that may help to explain differences in acquiescence among Latino ethnic subgroups.

This study also found that interview language was an influential determinant of acquiescence, as participants who completed the interview in Spanish were more likely to acquiesce, even when controlling for acculturation, ethnicity, and other respondent characteristics. These findings are similar to those by Gibbons, Zeller, and Rudek (1999) and consistent with the perspective that speaking a language activates associated cultural mindsets (Lee, Oyserman, and Bond 2010, Ross, Xun, and Wilson 2002). We also observed that when language use variables were included in the analyses, the influences of acculturation and ethnicity were dampened (i.e., Models 1 and 2 vs. Models 8 and 9, with and without EAs). These findings suggest that when acquiescence is examined without considering acculturation or language use (Model 2), ethnicity functions as at least a partial proxy for culture. While we observed that participants were more likely to acquiesce when completing the interview in Spanish, regardless of their first language, we also observed that participants who completed the interview in Spanish were more likely to acquiesce if their first language was Spanish. This finding suggests that a respondent's first language establishes a lasting, underlying pattern of culturally associated norms and behaviors that can be enhanced by momentary language use to encourage acquiescence.

Findings from this study suggest that interviewers may not be a contextual determinant of acquiescence among Latino survey respondents. Our study considered numerous means through which interviewer characteristics might influence acquiescence, based on both prior theory and previous empirical findings, and the lack of evidence for the influence of social distance, social deference, or objective or perceived interviewer characteristics on acquiescence was remarkably consistent. If social distance causes acquiescence among more vulnerable social groups, as some have surmised (Ross and Mirowsky 1984, Carr 1971), then one might expect that lower-income, less-educated, Latino respondents, who may be culturally predisposed to acknowledge social hierarchy (Marín and Marín 1991) would be among the respondent groups most likely to exhibit this behavior. Yet, in our study sample, there was no evidence that respondents were acquiescing to express social deference, project themselves in a positive light, or avoid offending their interviewers. We believe that these findings are notable, as Latinos are often assumed (or stereotyped) to be strongly influenced by social forces. Results of this study, however, suggest that Latino acquiescence is determined by other factors.

Our analyses had several potential limitations. Most notably, perceived interviewer characteristics were based on questions administered to respondents by their interviewers and, while this method has been used in other telephone studies (Davis and Silver 2003, Davis 1997), were at risk for social desirability bias. However, social distance and social deference models using objective interviewer characteristics did not alter the results. Interviewer characteristics that were not measured in this study may also have been more influential. Few participants had a similar social status as their interviewer, which may have

also limited our ability to assess the effects of social deference and social distance. Results of this study may not be generalizable, as the sample sizes for each ethnic group were modest, eligibility was restricted to mono-ethnic individuals, and participants were recruited from specific geographic areas with high Latino ethnic densities. Different results may also have been obtained with respondents from other Latino ethnic subgroups or with higher education or income levels. Given the limited sample size, the effect sizes were also modest. It is possible that our acquiescence measures contained information regarding other constructs that were not directly measured but were associated with variables that were predictive of acquiescence. This may result in some confounding (Fischer et al. 2009, Thomas, Abts, and Weyden 2014). It is also possible that reduced acquiescence would be observed during a face-to-face survey, since at least two studies indicate that acquiescence is higher for telephone surveys than when interviewer-administered surveys are conducted in person (Holbrook, Green, and Krosnick, 2003; Jordan, Marcus, and Reeder 1980).

This study is the first that we know of to examine competing hypotheses about the role of respondent-level and interviewer-level influences among three Latino ethnic subgroups. As such, findings from this study contribute to a better understanding of the determinants of acquiescence among Latino survey respondents. Further research is needed to develop a theoretical model of acquiescence, which, in turn, may illuminate why acquiescent responding varies across cultural groups, the meaning that acquiescence may convey about how respondents perceive and interact with the social world, and best practices for collecting and analyzing survey data from diverse Latino populations.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

This work was supported by the National Cancer Institute at the National Institutes of Health [grant number R01 CA172283].

Author Biographies

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Table 1:

Descriptive characteristics of telephone survey respondents and interviewers[1]

	Respondents (n=400)	Interviewers (n=21)
Age in years (mean, standard deviation [SD])	50.8 (18.0)	35.1 (12.1)
Gender (% female)	69.5	76.2
Married or living with a partner (%)	50.8	47.6
Education (%):		
Less than 7th grade	9.5	0
7th through 12th grade, no diploma	16.4	0
High school graduate or equivalent	23.3	38.1
Some college or technical/vocational school	21.3	33.3
4-year college degree	18.7	23.8
Graduate degree	10.8	4.8
Annual household income (%):		
Less than $20,000	37.4	31.6
$20,000–$39,999	22.9	36.8
$40,000–$59,999	12.9	5.3
$60,000–$99,999	13.3	21.1
$100,000 or greater	13.5	5.3
Race/ethnicity (n):		
Non-Latino European American (EA)	99	0
Mexican American	100	14
Puerto Rican	101	0
Cuban American	100	0
Central American	0	2
South American	0	5
Acculturation (Latino participants only, %):		
More Latino	60.1	23.8
More EA	16.6	28.6
High bicultural	14.3	28.6
Low bicultural	9.0	19.0
First language learned as a child (%):		
Spanish	61.7	76.2
English	33.0	9.5
Spanish and English simultaneously	3.0	14.3
Other language	2.3	0
Born in the mainland U.S. (%)	44.9	61.9
Interview language (%):		
Entirely in Spanish	49.5	-

	Respondents (n=400)	Interviewers (n=21)
Mostly in Spanish	1.7	-
Approximately half Spanish/half English	0.3	-
Mostly in English	1.2	-
Entirely in English	47.3	-
Proportion of acquiescent responses (mean, SD)[2]	0.48 (0.16)	-
Perceived social distance (%):		
Lower social status than interviewer	58.4	-
Same social status as interviewer	8.3	-
Higher social status than interviewer	33.3	-
Perceived social distance sum (%):		
0 similarities in sociodemographic characteristics	7.0	-
1 similarity in sociodemographic characteristics	35.7	-
2 similarities in sociodemographic characteristics	39.5	-
3 similarities in sociodemographic characteristics	15.5	-
4 similarities in sociodemographic characteristics	2.3	-
Years of interviewer experience (mean, SD)	-	3.0 (2.3)
Hours per week worked as an interviewer (mean, SD)	-	27.5 (7.9)

[1] = Unless noted, all statistics reported in Table 1 are based on self-reported data from respondents and interviewers and not on respondent perceptions of interviewer characteristics.

[2] = This proportion was calculated by dividing the total number of 5, 6, and 7 responses per participant by 80, as 80 items were used to assess ARS. The response scale ranged from 1 (“strongly disagree”) to 7 (“strongly agree”).

Table 2:

Results of general linear models testing the Respondent Hypothesis by estimating the influence of respondent characteristics on acquiescence among Latinos and non-Latino European American (EAs)

Dependent Variable: Mean ARS	**Model 1: Latinos Only (n=296)**	**Model 2: Latinos and EAs (n=390)**
Respondent acculturation (more EA = 0):		
Low bicultural	0.09 (.09)	
High bicultural	0.25 (.08) **	
More Latino	0.21 (.07) **	
Respondent age	0.004 (.001) **	0.01 (.001) ****
Respondent education (less than 7th grade = 0):		
7th through 12th grade, no diploma	0.01 (.08)	0.01 (.08)
High school graduate or equivalent	−0.11 (.08)	−0.15 (.08) *
Some college or technical/vocational school	−0.25 (.08) **	−0.29 (.08) ***
4-year college degree	−0.37 (.09) ****	−0.40 (.08) ****
Graduate degree	−0.42 (.11) ***	−0.41 (.09) ****
Respondent gender (male = 0)	0.09 (.05) #	0.09 (.04) *
Respondent ethnicity (Cuban American = 0):		
Mexican American	−0.12 (.06) *	
Puerto Rican	−0.13 (.06) *	
Respondent ethnicity (EA = 0):		
Mexican American		0.23 (.06) ***
Puerto Rican		0.24 (.06) ****
Cuban American		0.35 (.06) ****
R^2	.29	.36
Model p-value	<.0001	<.0001

= $p < .10$

* = $p < .05$

** = $p < .01$

*** = $p < .001$

**** = $p < .0001$

Table 3:

Results of general linear models testing the Interviewer Effects Hypotheses by estimating the influence of objective interviewer and respondent characteristics on acquiescence

Dependent Variable: Mean ARS	**Model 3: Interviewer Experience in Years (n=308)**	**Model 4: Interviewer Experience Index (n=308)**
Interviewer acculturation (more EA = 0):		
Low bicultural	−0.15 (.10)	−0.15 (.10)
High bicultural	0.01 (.08)	0.01 (.08)
More Latino	−0.03 (.10)	−0.01 (.10)
Interviewer age	−0.001 (.004)	−0.002 (.004)
Interviewer education (high school = 0):		
Some college or technical/vocational school	−0.01 (.08)	−0.02 (.08)
4-year college degree	−0.03 (.09)	−0.05 (.08)
Graduate degree	−0.01 (.18)	−0.02 (.17)
Interviewer gender (male = 0)	−0.001 (.07)	−0.01 (.06)
Interviewer experience in years	−0.001 (.02)	
Interviewer experience index	0.01 (.01)	
Respondent age	0.01 (.001)***	0.01 (.001)***
Respondent education (less than 7th grade = 0):		
7th through 12th grade, no diploma	−0.07 (.09)	−0.07 (.09)
High school graduate or equivalent	−0.18 (.09)*	−0.18 (.09)*
Some college or technical/vocational school	−0.32 (.09)***	−0.32 (.09)***
4-year college degree	−0.41 (.09)****	−0.41 (.09)****
Graduate degree	−0.44 (.10)****	−0.43 (.10)****
Respondent gender (male = 0)	0.09 (.05)#	0.09 (.05)#
Respondent ethnicity (EA = 0):		
Mexican American	0.29 (.07)****	0.28 (.07)****
Puerto Rican	0.29 (.06)****	0.28 (.06)****
Cuban American	0.38 (.06)****	0.38 (.06)****
R^2	.38	.38
Model p-value	<.0001	<.0001

= $p < .10$

* = $p < .05$

** = $p < .01$

*** = $p < .001$

**** = $p < .0001$

Table 4:

Results of general linear models estimating the influence of social distance and social deference on acquiescence

Dependent Variable: Mean ARS	**Model 5: Linear Social Distance Hypothesis (n=390)**	**Model 6: Curvilinear Social Distance Hypothesis (n=390)**	**Model 7: Social Deference Hypothesis (n=388)**
Social distance (more distance → less distance)	0.03 (.02)	−0.02 (.07)	
Social distance^2		0.01 (.02)	
Social deference (same social status = 0):			
Lower social status as interviewer			−0.08 (.08)
Higher social status than interviewer			−0.06 (.08)
Respondent age	0.01 (.001)****	0.01 (.001)****	0.01 (.001)****
Respondent education (less than 7th grade = 0):			
7th through 12th grade, no diploma	0.01 (.08)	0.004 (.08)	0.01 (.08)
High school graduate or equivalent	−0.17 (.08)*	−0.17 (.08)*	−0.15 (.08)*
Some college or technical/vocational school	−0.30 (.08)***	−0.30 (.08)****	−0.29 (.08)***
4-year college degree	−0.42 (.08)****	−0.43 (.08)****	−0.42 (.09)****
Graduate degree	−0.41 (.09)****	−0.42 (.09)****	−0.42 (.10)****
Respondent gender (male = 0)	0.07 (.04)	0.07 (.04)	0.09 (.04)*
Respondent ethnicity (EA = 0):			
Mexican American	0.22 (.06)***	0.22 (.06)***	0.23 (.06)****
Puerto Rican	0.23 (.06)****	0.24 (.06)****	0.24 (.06)****
Cuban American	0.34 (.06)****	0.34 (.06)****	0.35 (.06)****
R^2	.36	.36	.36
Model p-value	<.0001	<.0001	<.0001

$^{\#}$ = $p < .10$

* = $p < .05$

** = $p < .01$

*** = $p < .001$

**** = $p < .0001$

Table 5:

Results of general linear models estimating the influence of language use on acquiescence, Latino respondents only

Dependent Variable: Mean ARS	**Model 8: Language Use Hypothesis #1 (n=295)**	**Model 9: Language Use Hypothesis #2 (n=280)**
Interview language (English = 0)	0.21 (.08) **	
First language learned as a child (English = 0)		
Interview language x first language learned as a child (English interview/ English learned first = 0):		
English interview/Spanish learned first		0.10 (.09)
Spanish interview/English learned first		0.23 (.21)
Spanish interview/Spanish learned first		0.28 (.10) **
Respondent acculturation (more EA = 0):		
Low bicultural	0.02 (.09)	0.05 (.10)
High bicultural	0.19 (.08) *	0.19 (.09) *
More Latino	0.03 (.09)	0.03 (.10)
Respondent age	0.003 (.001) *	0.003 (.002) *
Respondent education (less than 7th grade = 0):		
7th through 12th grade, no diploma	0.002 (.08)	0.003 (.08)
High school graduate or equivalent	−0.13 (.08)	−0.12 (.08)
Some college or technical/vocational school	−0.25 (.08) **	−0.24 (.08) **
4-year college degree	−0.39 (.09) ****	−0.39 (.09) ****
Graduate degree	−0.43 (.11) ***	−0.45 (.11) ****
Respondent gender (male = 0)	0.08 (.05)	0.08 (.05)
Respondent ethnicity (Cuban American = 0):		
Mexican American	−0.11 (.06) #	−0.11 (.06) #
Puerto Rican	−0.11 (.05) *	−0.12 (.06) *
R^2	.31	.31
Model p-value	<.0001	<.0001

= $p < .10$

* = $p < .05$

** = $p < .01$

*** = $p < .001$

**** = $p < .0001$