

**ATTITUDINAL DIFFERENCES TOWARDS
PERUVIAN QUECHUA AND SPANISH SPEAKERS:
A MATCHED GUISE STUDY**

by

Mackenzie Marcinko

A dissertation submitted to the Faculty of the University of Delaware in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Linguistics

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ABSTRACT

This dissertation compares Peruvian bilinguals' attitudes towards speakers of Quechua and speakers of Spanish using the Matched Guise Technique. Consistent with prior research on language attitudes, the current study explores whether Quechua would pattern like other minoritized language varieties—exhibiting relatively higher solidarity and lower status—and that Spanish would pattern like other majoritized language varieties—exhibiting relatively lower solidarity and higher status. This study adds to the understanding of the current state of Quechua-Spanish relations in Peru, placing Quechua and Spanish within the typology of languages that pattern along the majoritized-minoritized framework.

The key findings indicate that patterns of language attitudes towards Quechua and Spanish speakers do align with speakers of other minoritized–majoritized language pairs. Participants consistently evaluated Quechua speakers as higher on a solidarity category but lower on a perceived socioeconomic status category than Spanish speakers.

Not only does the current study probe language attitudes with respect to different survey categories, it also systematically assesses whether these attitudes vary by participant age and participant gender. It was determined that this pattern of how participants rated Quechua speakers in relation to Spanish speakers were robust, independent of participants' age and gender.

Chapter 1

INTRODUCTION

The purpose of the current dissertation is to understand attitudes towards Quechua speakers and Spanish speakers in Peru using the Matched Guise Technique. There is a substantial body of literature discussing the history and present of the social and political relationships between the Quechua and Spanish languages, but what is missing from the sociolinguistics literature is a quantitative, systematic description of Peruvian bilinguals' attitudes towards spoken Quechua and Spanish. The current dissertation extends the literature on the historical and cultural contexts of social interactions between Spanish and Quechua speakers, and in particular, places Quechua and Spanish within the typology of languages that pattern along the majoritized-minoritized framework.

The present study makes use of speech recordings from Quechua-Spanish bilinguals, which study participants evaluated along different social categories in an online survey. The participants were unaware that the speech recordings were from the same set of bilingual speakers (who were fluent in both Quechua and Spanish), which ensured that participants' evaluative judgements could be attributed to the language of the speech itself, as opposed to any confounding factors of the speaker (Campbell-Kiebler, 2006; 2010).

1.1 Motivation for the Current Study

The main objective of this dissertation is to determine whether Peruvian bilinguals' attitudes towards speakers of Quechua and Spanish differ. As will be described in the next chapter, a long history of colonialism in Peru initially placed Spanish speakers in a position of greater sociopolitical control relative to Quechua speakers (Mannheim, 1991). More recently, researchers such as Klee and Caravedo (2006), Escobar (2011), and Marr (2011) describe the modern linguistic landscape in the Andes as one in which Quechua speakers have shifted to the use of Spanish.

This historical backdrop has shaped the ways that language has become linked to identities, institutions, and values in the Andes (the links between language form and social processes are collectively known as *language ideologies*; Campbell Kiebler, 2006; Woolard, 2020). One narrative is that spoken Quechua still carries with it social stigmas, with some speakers even denying they speak it (Hornberger & Coronel-Molina, 2004). Spanish, on the other hand, is often acknowledged as the prestige language of the country, serving as the language most commonly used in the government, in education, and in the media. Meanwhile, there is evidence to suggest that Quechua language ideologies in Peru are substantially more complex than this simple narrative suggests. For example, there is increasing literature suggesting that Quechua is being repositioned as a source of Andean cultural pride, while simultaneously becoming an object of commercial commodification (e.g., in the form of manufactured “authentic” representations of Andean culture geared toward tourists) (Kenfield, 2018; 2019; Zavala, 2019; 2023). What remains unclear is whether these representations of Quechua and Spanish in Peruvian culture are manifested in speakers' language attitudes today.

1.2 Goals of the Current Study

The general research question of the current dissertation is to understand participants' relative attitudes towards speakers of Quechua compared to speakers of Spanish. Aptly suited to address this question are several categories of language attitudes, including categories of solidarity and perceived socioeconomic status. Not only are these two well-established sociolinguistic concepts found to be useful for distinguishing language attitudes in majoritized-minoritized pairs, they have been useful tools for establishing the relative social roles of particular languages in other multilingual societies (Cavallaro & Bee Chin, 2009; Bilaniuk, 2003).

The current study tests a prediction that attitudes towards Quechua and Spanish will pattern after pairs of language varieties in which one is relatively minoritized compared to the other. Grounded in prior literature describing the context surrounding social and political relationships between Quechua and Spanish in Peru, this dissertation tests an assumption that Spanish will pattern like other majoritized varieties with respect to language attitudes, and that Quechua will pattern like other minoritized varieties (Luhman, 1990; Salcedo Arnaiz, 2020; Escobar, 2011). Participants are predicted to rate Quechua speakers higher on a Solidarity category but lower on a Status category than Spanish speakers. On the other hand, participants are hypothesized to rate Spanish speakers higher on Status but lower on Solidarity than Quechua speakers.

The current dissertation also considers whether the relative attitudes towards Quechua speakers and Spanish speakers vary with respect to participant age and participant gender. There is literature showing that social attitudes vary with age and gender (Sears, 1981; Beutel & Marini, 1995; Alwin & Rosow, 1991). Therefore, the current study explores whether variations in the participants' age and gender are

associated with any attitudinal differences. Despite the widespread use of the Matched Guise Technique in different cultural and linguistic contexts, Garrett (2010) notes that the Matched Guise literature tends to focus on demographic features of the speaker as a source of variation, as opposed to demographic features of the listener, the latter of which is the perspective of the current study.

1.3 Structure of this Dissertation

The following chapter provides an overview of relevant literature, which begins with underlying background on key attitude studies and the Matched Guise Technique. Also included in Chapter 2 is a literature review of the history and present of the social and political relationships between Quechua and Spanish in Peru, along with a description of how the current work adds to this discussion (Chapter 2). Chapter 3 then describes the rationale for the specific research questions and hypotheses of the current study, as well as discussion of the survey used to test these hypotheses. Next, the survey results are presented in Chapter 4. Chapter 5 motivates and presents findings of complementary post-hoc analyses. The findings of the study are discussed in Chapter 6. Chapter 7 summarizes the current research and concludes the dissertation.

Chapter 2

BACKGROUND ON ATTITUDES AND QUECHUA

This chapter presents background literature in two parts. The first part defines key terms related to Attitude Theory (2.1.1), provides a detailed background of the Matched Guise Technique (2.1.2), presents core concepts of solidarity and status (2.1.3), and finally—introduces age and gender as two possibilities for sources of variation of language attitudes (2.1.4).

The second part of this chapter is devoted to the two languages used in the current investigation, Quechua and Spanish (2.2). 2.2.1 and 2.2.2 provide a literature review of the social, cultural, historical, and political contexts of interactions between Spanish and Quechua speakers in Peru. Also summarized in this section are findings of previous language attitudes studies with respect to Quechua and Spanish speakers (2.2.3).

2.1 Literature Review of Language Attitudes

2.1.1 Attitude Theory

Agheyisi and Fishman (1970) and Fishbein and Ajzen (1977) define *attitude* as an individual's learned predisposition to react favorably or unfavorably towards an object. A well-established model of attitude structure is tripartite, specifying *affect*, *cognition*, and *behavior* as the three components of every attitude (Rosenberg & Hovland, 1960; Breckler, 1984). Affect refers to how an individual feels about an object (e.g., “I am afraid of snakes.”), cognition refers to the beliefs an individual

holds about an object (e.g., “I believe that snakes are dangerous.”), and behavior refers to how an individual reacts to an object (e.g., “If I see a snake, I will run away.”) (Eagly & Chaiken, 1993; Zanna & Rempel, 1988; examples adapted from Breckler, 1984).

Huskinson and Haddock (2006), and Haddock and Huskinson (2004) have suggested that the relative weighting of each of these three components accounts for individual variation in attitudes. Individuals may vary in the extent to which their attitudes are derived from affective over cognitive information. It has also been theorized that the roles of affective, cognitive, and behavioral information depend on the object under consideration (Huskinson & Haddock, 2006; Haddock & Huskinson, 2004).

Research on attitudes has grown to encompass a variety of fields. For instance, in market research and advertising, researchers have assessed participants’ attitudes towards various modes of advertising and attitudes towards brand names (Edell & Burke, 1987; Verplanken et al. 1998). In healthcare, studies have examined patients’ attitudes towards blood donation and attitudes toward physical activity (Conner et al., 2013; Van Capellen et al, 2018). In political science, researchers have examined attitudes towards political participation and political polarization (Iyengar & Krupenkin, 2018).

There is also work suggesting that individuals’ attitudes may vary with respect to their age and gender. Regarding age, there are studies which suggest that different generations show different patterns of attitudinal responses, but there is substantial variation in the precise ages at which the greatest attitude differences occur. One such study is Tyler and Schuller’s 1991 study of over 1,400 American adults, which

assessed participants' attitudes towards various public services (e.g., receiving unemployment benefits, job training, or workers' compensation) using telephone survey data. The responses from those ages 18 to 25 were compared to those from participants ages 50 and above. Tyler and Schuller found that the attitudes of the younger age group were not significantly influenced by recent personal experience. However, over 20% the variance in attitudes from the over-50 group could be explained by recent personal experience.

By contrast, Alwin and Crosnick's 1991 study found that attitude changes occur on a much narrower timeline in adulthood, having used a sample of 1,200 American adults as the study's participants. One finding was that youngest age group (ages 18-25) was significantly lower in their stability of both direction and intensity of political party identification. These levels of stability were also found to increase dramatically from the youngest group through midlife, with the greatest stability of sociopolitical attitudes found in the 34-41 age group. The participants' political orientations remained stable in all older groups, which included ages 42-49, 50-57, 58-65, and 66-83. Of note is the fact that participants' socioeconomic status, race, and gender are not explicitly included in either Alwin and Crosnick (1991) or Tyler and Schuller (1991), both studies attest that their participant samples were a representative cross-section of American adults.

Riley (1973), Rosow (1978), Alwin and Crosnick (1991), and Tyler and Schuller (1991) have proposed several possible mechanisms underlying age-related differences in attitudes. Age effects, including not only the biological changes associated with aging, but also systematic changes to personality, social roles, and behavior that occur with aging, are one such cause. Cohort effects, generally

understood as variations over time among groups of individuals defined by a shared experience like birth year or shared societal phenomenon, are another (Rosow, 1978; Riley, 1973). As a result, one particular research thread in developmental psychology has sought to disentangle the notion that attitudes are solidified early in life and remain stable into adulthood from the possibility that attitude changes accompany inherent developmental changes (e.g., from puberty to the cognitive changes associated with aging) (Alwin & Crosnick, 1991; Tyler & Schuller, 1991).

Research in sociology has also proposed gender-based differences in attitudes, as well (Beutel & Marini, 1995). The American women sampled in Beutel and Marini (1995)'s foundational longitudinal study were more likely than the men to express caring and responsibility for others' well-being. Other studies in the United States by Aries (1976), Cross and Madson (1997), and Shapiro and Mahajan (1985) found that all-women groups shown more agreeability and a greater tendency to relieve group tension compared to all-men groups, which have tended to display more rigid social hierarchies and more competition than all-women groups.

One observation is that this body of foundational work on the relationship between gender and attitudes was conducted within the North American context. Chant and Craske (2003), Padilla (2004), and Nuñez (2016) note that that patriarchal gender roles remain evident throughout Latin America. These studies on the relationship between gender and attitudes, awhile non-linguistic in nature, will be further addressed in the context of language attitudes, specifically, in 2.1.4, showing that there is reason to believe that key findings on the relationship between gender and attitudes may be similar in the Peruvian context.

Of note is the fact that this dissertation operates within the male-female gender binary. In reality, gender is an expansive concept that refers to one's identity beyond this binary, and researchers in sociology and social psychology such as Chatillon et al. (2018) and Fisk and Ridgeway (2018) have called for more attention on non-binary gender identities.

Alongside its presence in social psychology and sociology, Attitude Theory is likewise considered in the field of sociolinguistics. Agheyisi and Fishman (1970) define *language attitudes* as any attitudes towards a particular language variety itself (e.g., how a language sounds). The tripartite model of attitude structure has been considered in the context of language attitudes: affect (e.g., how we feel about speakers with a Southern accent), cognition (e.g., what we believe to be true of speakers with a Southern accent), and behavior (e.g., how we react when in conversation with speakers with a Southern accent) (Haddock & Huskinson 2004).

The ways that language attitudes have been assessed, either through direct or indirect means, is of particular relevance to the current dissertation (Garrett, 2010). Direct assessment of attitudes involves asking individuals about their views toward a language variety or its speakers, revealing insights that individuals are aware of on a conscious level. One such example of directly assessing language attitudes are questions from MacKinnon (1981)'s study of Gaelic language attitudes in Scotland. Participants were asked questions such as, "Do you think that the Gaelic language is important for the Scottish people as a whole?" and "If Gaelic became more noticeable in everyday life, in what way would this affect you?". Response options were a six-point Likert scale from "strongly agree" to "strongly disagree". However, researchers

point out several ways that direct assessment of language attitudes may be methodologically flawed.

First, Garrett (2010) and Oppenheim (1992) suggest that the process of asking questions about imprecise hypothetical behaviors does not provide insights into *concrete* behaviors resulting from attitudes. For instance, an answer to a question such as: “If Gaelic became more noticeable in everyday life, in what way would this affect you?” may poorly predict an individual’s behavior if this situation were to actually occur. Oppenheim (1992) points out another methodological challenge inherent in direct assessment of language attitudes: questions are often unintentionally loaded or ideologically slanted. An individual word (e.g., “important”) may be loaded, but the overall leading content of a question may be loaded, as well (e.g., “If Gaelic became more noticeable in everyday life...” assumes that Gaelic is presently not noticeable in everyday life). These questions may push individuals to answer a certain way.

Other problems that may occur with directly asking questions about participants’ language attitudes arise from the researcher—participant relationship. Perloff (1993) suggests that individuals may tend to give answers they feel are socially appropriate (a pattern Perloff calls the *social desirability bias*). For example, participants who hold negative views toward a group of speakers using a particular language or language variety may be hesitant to admit them to the researcher (Perloff, 1993; Garrett, 2010). Another such tendency is for participants to agree with items, regardless of their actual personal beliefs (termed an *acquiescence bias* by Ostrom et al., 1994, Fabrigar et al., 2005, among others). Finally, Labov’s (1972) classic notion of the *Observer’s Paradox* states that characteristics of the researchers (e.g., gender, race, etc.) may affect data quality, as well.

With reference to the current study, the use of an asynchronous survey was intended to lessen the confounds presented by the Observer’s Paradox (see also Chapter 6 for a brief discussion of what it means to do this work as a community outsider). The use of more subtle—almost “deceptive”, to use the language of Garrett (2010)—techniques through indirect assessment may further circumvent these methodological challenges of directly asking about participants’ language attitudes. The most well-known indirect method of assessing language attitudes is the *Matched Guise Technique*.

2.1.2 The Matched Guise Technique

Originally developed by Lambert et al. (1960), the Matched Guise Technique is structured as follows: Participants listen to speech recordings in multiple languages or varieties and make judgements about traits of the speakers they hear. Participants believe they are hearing different speakers. In reality, participants are actually hearing a single, multilingual or multidialectal speaker, who secretly takes on different linguistic personas (a *guise*). Participants end up providing their attitudes to different speech varieties, as being used by a single speaker.

Because the speaker is held constant, this paradigm ensures that participants’ judgements can be attributed to reactions to the language of the voice itself, as opposed to other properties of the speaker (age, gender, etc.; Campbell-Kiebler, 2006; 2010). The Matched Guise Technique provides insight into whether some character traits are more-strongly associated with one language or variety over another. Lambert et al. (1960)’s original study compared Canadian French and English in Montreal. The researchers determined that both French-speaking and English-speaking listeners evaluated speakers of English more favorably than they did the same individuals

speaking French. Matched Guise research assumes that speakers project and listeners interpret specific social meanings, which are determined by the perspective they take and the situation at hand (Silverstein, 2003). When a listener hears a given variety, it therefore triggers a response to the speaker in question (Eckert, 2008; Hiraga, 2005).

Since Lambert et al. (1960)'s original study, the Matched Guise Technique has been widely used elsewhere in the world to compare, having assessed attitudes towards speakers of Castilian Spanish and Catalan in Spain (Woolard, 1984), speakers of Cantonese, English, and code-switched speech in Hong Kong (Gibbons, 1983), Russian and Ukrainian speakers in Ukraine (Bilaniuk, 2003), Brazilian Portuguese and English Speakers in Brazil (Gentry El-Dash and Busnardo, 2001), Tamil and Kannada speakers in India (Sridhara, 1984), and to speakers of Serbian and Croatian in both Belgrade and Zagreb (Golubović & Sokolić, 2013).

The technique has also been used to compare attitudes toward speakers of multiple dialects of the same language. Studies of this type include comparisons between speakers of Galician Spanish versus Peninsular Spanish (Loureiro-Rodriguez, 2013), Aboriginal Australian English versus Standard Australian English (Gallois et al., 1984), Arabic-Hebrew compared to Ashkenazic-Yeminite Hebrew (Lambert et al., 1965), and Black English¹ compared to Standard American White English (Doss & Gross, 1994).

Researchers have also used the Matched Guise Technique to answer questions about the factors that listeners use to form an impression of another person on the basis of speech (Campbell-Kiebler, 2010). For instance, Hogg et al. (1984) sought to

¹Doss & Gross (1994) refer to a variety called “Black English”, which is sometimes also called “African American Vernacular English” (abbreviated AAVE) in other literature. I use the same term used by the researchers, in each case.

determine whether a speaker's level of formality would influence participants' attitudinal ratings of High German speakers and Swiss German speakers. In this study, the formal passage was a lecture about the history of Jazz, and the informal one was an excerpt of a conversation about a soccer match. Ryan and Carranza (1975) made a similar comparison of passage formality, comparing attitudes towards a discussion between mother and son in the kitchen (informal) with an excerpt of a teacher giving a history lesson to her class (formal), using both standard American English and Spanish-accented English. Both Hogg et al. (1984) and Ryan and Carranza (1975) found significant main effects for passage formality for all language varieties, and formal passages tended to be evaluated more positively than informal passages.

In addition to manipulations to formality, Matched Guise research has also found that judgements of speakers' competence may depend on their speech rate. As demonstrated in Street et al. (1983) and (1984)'s studies of American English, listeners tended to rate faster speakers as more confident, more intelligent, and more competent than slower speakers (although these studies only made use of different gradients of "natural" speech rates; unnaturally slow or fast rates were excluded; see also 2.1.4 for links between speech rate and age).

A more recent innovation in the Matched Guise literature is the use of guises created from digitally manipulated speech samples. Campbell-Kiebler (2010) created stimuli differing only in tokens of '-ing' (for example, 'running' versus 'runnin') using speech from several American English speakers. One finding of this study was that speakers were rated as more educated and more likely to be articulate when they used '-ing'. However, the meaning of '-ing' was also context-dependent and based on regional dialect. Villareal (2016) created guises using resynthesized vowels collected

from the speech of native Californians. The guises differed with respect to two California English variants in pronunciation ([æ] backing, e.g., in ‘trap’; [u] fronting, e.g., in ‘goose’). Unsurprisingly, one general finding was that listeners associated these features with Californianness. For female speakers, listeners associated these vowel variants with sounding like a Valley girl (compared to the non-manipulated speech from the same female speakers) and for male speakers, these pronunciations were associated with confidence (when compared to the non-manipulated tokens of the same male speakers).

Finally, one especially creative Matched Guise passage was developed in Purnell et al. (1999), who were believed to be the first researchers to use a live, telephone-based context. In this study, a multidialectal speaker made calls to prospective landlords, using majoritized (Standard American English) and minoritized (AAVE and Chicano English) dialects, to inquire about apartments available for rent. Not only did results show that landlords discriminate against prospective tenants on the basis of the sound of their voice during telephone conversations, the results of a subsequent experiment determined that listeners evaluate speech very quickly, often after only the first word of a sentence.

2.1.3 Solidarity and Status

Despite the diversity of languages and varieties having been assessed using the Matched Guise Technique, one consistent challenge researchers face is deciding what properties to evaluate. Matched Guise studies have commonly examined attitudes towards language varieties with respect to *Solidarity* and *Status*. Social interactions affecting language use are said to be distilled into these two dimensions, with these terms originally developed in Brown and Gilman (1960) and Brown (1965).

Solidarity is the extent to which an individual identifies with a variety. Solidarity is attributed to how an individual feels when hearing a speaker they perceive as similar. More specifically, solidarity is marked by a high degree of interaction, self-disclosure, and intimacy. Status refers to differences in social power and socioeconomic status between individuals (Brown & Gilman, 1960; Brown, 1965). Status is also often used to category the overt *prestige* (level of respect given) to speakers of a particular language or language variety (Hiraga, 2005).

In Matched Guise studies, solidarity questions often assess perceived like-mindedness or similarity between a speaker and listener and evaluate the extent to which a speaker seems friendly, honest, and responsible (Giles & Powesland, 1975; Ryan & Carranza, 1975; Huygens & Vaughan, 1983; Chiba et al, 1995). On the other hand, evaluations of status often incorporate themes of perceived educational attainment, financial means, and the social class that the individual or their family and friends occupy (Cavallaro & Bee Chin, 2009; Ryan & Carranza, 1975).

Since solidarity and status originated as sociolinguistic concepts, they have become well-established terms within language attitudes studies. Patterns of relative solidarity and status ratings have been used to identify the *in-groups* and *out-groups* to which any individual belongs.

An in-group is a social group to which an individual psychologically identifies as a member, and an out-group is a social group to which an individual does not identify (Little et al., 2016). High solidarity ratings have been associated with the use of participants' in-group language, but low solidarity ratings correspond to the language of an out-group.

By contrast, status ratings, have been associated with the relative socioeconomic position of the speakers of each language. One assumption is that an individual will show solidarity to members of their own group while recognizing the status of privileged groups, independent of whether they actually belong to those groups (Giles et al., 1987). The current study examines the in-group and out-group pattern in the context of a sample of bilingual participants.

Researchers have also found that patterns of relative status and solidarity often distinguish the social status of minoritized and majoritized language varieties. It has been found that speakers of minoritized language varieties often rate speakers of their own varieties as higher than majoritized varieties with respect to solidarity traits. On the other hand, minoritized varieties tend to receive lower ratings on status traits compared to majoritized varieties. A substantial portion of this literature on solidarity and status focuses on different varieties within a given language (i.e., language varieties with substantial mutual intelligibility). For example, bidialectal participants of Andean Spanish and Lima Spanish rated Andean Spanish speech lower on status traits but higher on solidarity traits than Lima Spanish (Salcedo Arnaiz, 2020). This pattern has been observed in a diverse variety of settings: e.g., between Appalachian English versus Standard American English in Kentucky (Luhman, 1990), High German versus Swiss German in Switzerland (Hogg et al., 1984), Galician Spanish versus Peninsular Spanish in Spain (Loureiro-Rodriguez, 2013), and Singapore English and Standard American English in Singapore (Cavallaro & Bee Chin, 2009).

Unlike many of these prior studies, the current dissertation explores this framework in the case of two mutually unintelligible languages, Spanish and Quechua. As will be developed in this dissertation, the tested hypothesis is that Quechua

represents a minoritized variety, and that Spanish represents a majoritized variety. This expectation also originates in work from researchers like Manley (2008) and Hornberger and Coronel-Molina (2004, 2011), who suggest that Quechua is often held in low regard with respect to Spanish in the Andes. The current study makes a new contribution by assessing if bilingual participants, themselves speakers of both Spanish and Quechua alike, are internalizing the dominant language-based stereotypes and discrimination. With respect to and status, Quechua is expected to pattern like a canonically minoritized variety, and Spanish, like a majoritized variety (see also 3.2 and 3.3).

2.1.4 Variation by Age and Gender

Additional considerations that have been explored as sources of variation in language attitudes are age and gender of the speaker. For instance, one study from Luhman (1990) showed a case where speakers of a minoritized variety received higher solidarity ratings than a majoritized variety, but only when the speaker was male. In the study, male voices received higher solidarity ratings for Appalachian English guises than for Standard American English, while female voices received no change in solidarity evaluations between Appalachian English and Standard American English. In the context of British English in Norwich, Giles and Powesland (1975) suggest that men speaking in minoritized varieties is an expression of covert prestige not present when women use the same varieties. Trudgill (1972, 1974) similarly suggests that men's use of minoritized varieties may be associated with masculinity and toughness.

On the other hand, women may be "penalized" with low ratings for their use of minoritized varieties. Bilaniuk (2003) found that women received higher status ratings when speaking in their Russian guises (which were taken to be majoritized) than in

their Ukrainian guises (taken to be minoritized), while men received higher solidarity ratings when speaking Ukrainian than Russian. This trend was also reported in Andrews (2003), who compared Standard Russian with one regional Russian variety and ultimately determined that the range of ratings of the two female guises were larger than for the male guises.

Relevant to these findings are works from Eckert (1998) and Bourdieu (1991), who suggest that women's social positions are defined more by symbolic means than by concrete skills or activities (the latter of which Eckert and Bourdieu more-strongly associate with men). This logic suggests that in turn, women are compelled to build their own social capital by using highly codified, societally acceptable language varieties, while men do not face a similar pressure to do so. This underlying mechanism also explains why women have been found to use fewer nonstandard forms than men, in general (Labov, 1966; Shuy et al., 1967; Brown, 1980).

With respect to speaker age, the literature generally agrees that not only can listeners estimate speaker age quite accurately for both male and female speakers, but also that speech from older speakers tends to be perceived less-favorably than speech of younger speakers (Ryan & Capadano, 1981; Garrett, 2010). For example, Stewart and Ryan (1982) show that younger English speakers were rated as more competent than older English speakers. It was also found that older female speakers were evaluated as more "reserved," "passive," "out-of-it," and "inflexible" than younger female speakers, and that older male speakers were evaluated as more "inflexible" than younger male voices. In general terms, speech from older women, in particular, tended to be more harshly evaluated than speech from men of the same age. Giles et al. (1990) likewise demonstrated that older speakers were evaluated as more "old

fashioned,” “frail,” and “vulnerable” (In this study, “vulnerability” is intended to measure insecurity and a lack of confidence). Giles et al. (1990) also showed interactions among language variety, age, and speech rate: younger speakers were seen as less vulnerable when they used minoritized speech varieties (here, Lancashire English), and elderly speakers were evaluated as less vulnerable when they used the majoritized variety (Received Pronunciation, in this case), but only if they spoke it quickly. The guise rated most vulnerable was the older, slow-talking Lancashire speaker (Giles et al., 1990).

As will be described next, what is generally lacking from many Matched Guise studies; however, are systematic manipulations to any properties of the listener (holding speaker properties constant). This trend is especially true of the studies directly examining impacts of gender of the listener, and the results of these studies show little in the way of clear patterns. For example, in Bergstrom (2017), a sample of American female participants consistently rated all speakers higher on credibility, confidence, prestige, and pleasantness than male participants, regardless of speaker age (three age groups were ages 18-29, 36-49, and 56-67), the regional English variety evaluated (New Zealand English or Standard American English), or speaker gender (For each variety, Bergstrom included four women and four men in each of the three age groups). However, there are also studies in which female participants evaluated majoritized language varieties more positively than male participants did, and at the same time, female participants evaluated minoritized varieties more negatively than male participants did—this was true in Elyan et al. (1978)’s comparisons of evaluations of speakers of Received Pronunciation versus speakers Lancashire English in England, and in comparisons of standard French speakers with speakers of regional

French varieties by Paltridge and Giles (1984), and later by Brown and Cichocki (1995). In contrast, Lukkarila et al. (2012)'s study of Finnish speakers and Addington (1968)'s study of English speakers both reported no significant difference of evaluative judgements between male and female participants, regardless of the speaker properties (these two studies manipulated speech rate, nasalization, and breathy voice).

Regarding listener age, cross-linguistic evidence suggests that children generally show *egocentric* judgements generally preferring their own language variety, regardless of the societal prestige of that variety (McCullough et al., 2019). Day (1980) found that kindergarteners in Hawaii rated speakers of Hawaiian Creole English higher than standard English speakers on along both status and solidarity. Similarly, Cremona and Bates (1977) found that Italian 6-year-olds tended favor their own local regional variety over Italian across the board. With age, children's language attitudes shift to an adult-like state: McCullough et al. (2019) found that children could categorize varieties of American English by region of origin with strong accuracy by the age of 8, and children's status ratings became adult-like by the age of 12 (solidarity ratings did not exhibit a clear developmental trajectory, although some adult-like patterns were observed in 6- to 7-year-olds). These findings were interpreted to mean that the cultural knowledge of language stereotypes and language prestige are learned through exposure.

Studies exploring the nature of generational attitude differences in adulthood, as opposed to only within childhood, are lacking from the language attitudes literature. As addressed in 2.1.1, there is research indicating that non-linguistic attitudes do change within adulthood, although the precise ages at which attitudes change within

adulthood are subject to variation. It is unknown whether language attitudes vary in a similar manner.

2.2 Background on Quechua and Spanish in Peru

Much of South America is multilingual, and the language situation in Peru is no different. Quechua is one indigenous language family currently spoken across the Andes (and in the Amazon, to a lesser extent). As is common in the literature, I henceforth refer to the group of Quechuan language varieties as simply ‘Quechua’. Primarily spoken in Bolivia, Peru, and Ecuador, Quechua varieties are also attested in northern Chile and Argentina (Hornberger & Coronel-Molina, 2004). Currently, estimates for the total number of native Quechua speakers (all varieties) in South America range from approximately 6 million to 8 million, making it the most spoken indigenous language in the Americas today (Firestone; 2012; Mendoza-Mori, 2017). Hornberger and Coronel-Molina (2004) derive an estimate of 6 million Quechua speakers using census data, but they acknowledge that census data may underestimate speaker numbers. Hornberger and Coronel-Molina (2004) moreover observe that Quechua speakers may be ashamed to admit they speak Quechua, which presents a further challenge in identifying an accurate number of native speakers. For the Cusco Quechua variety in particular, an often-cited estimate for speaker population is Hornberger (1989)’s figure of 1.5 million speakers.

Quechua’s relatively large number of speakers makes it appropriate to label Quechua as a “minoritized” but not necessarily “minority” language throughout this dissertation. King & Hornberger (2004) use the term “minoritized” to refer groups or individuals who, although perhaps numerous, “...are marginalized within the larger

society...” (p. 6), and this term is likewise adopted by McCarty (2002), Haboud (2004), Manley (2008), and is used throughout the current dissertation.

Currently, researchers generally agree that Quechua varieties can be divided into several main groups based on shared properties such as phonological inventory or grammatical structure (Adelaar, 2004). Parker (1963) and Torero (1964) completed early work classifying Quechua varieties, and their work is commonly cited today. Parker (1963)’s bifurcation separates the Quechuan family into Quechua I and Quechua II, with further subdivision into Central, Northern, and Southern Quechua varieties (Landerman, 1991; Adelaar & Muysken, 2004). This system is generally accepted, but the extent to which individual varieties belong in one group or another remains controversial in some cases, and the extent to which varieties share common characteristics and are mutually intelligible with one another varies widely, especially among Quechua I varieties (Manley, 2008).

The present dissertation uses speech recordings of Cusco Quechua, a variety spoken in and around Cusco, Peru (see Figure 1). Cusco Quechua is mutually intelligible with several other Quechua varieties: Ayacucho Quechua, Apurímac Quechua (both spoken in Peru), Cochabamba Quechua (Bolivia), and Santiagueño Quechua (Argentina and Chile). Together, these varieties form the Southern Quechua branch (Hornberger & Coronel-Molina, 2004; Adelaar & Muysken, 2004).



Figure 1: Location of Cusco within Peru

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2.2.1 Quechua-Spanish Relations in Peru: Historical Context

The historical factors contributing to Peru's language shift from Quechua to Spanish have had consequences for the language ideologies that exist in the present.

Historically, Quechua was the common language of the Inca Empire. At its largest, the Empire stretched from what is present-day Chile in the south to Colombia in the north (shaded green in Figure 2) (Mannheim, 1991). Precise dates of the Empire vary, but a common estimate is that the Inca civilization arose from the highlands of Peru between the 12th and 13th centuries A.D. and lasted until the last Inca stronghold fell to the Spanish colonists in 1572 A.D (García, 2004; Hornberger & Coronel-Molina, 2004). The Incas remained relatively tolerant of other languages (e.g., Aymara, Puquina, and Mochica—the latter two now extinct) spoken throughout the Empire (García, 2004; Klee, 2001).



Figure 2: The Extent of the Historic Inca Empire

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During the Spanish colonization of the region in the 1530's, constant violence and enslavement allowed a relatively small number of colonists to control a relatively large area of land and a relatively large number of native people. During this period, the Spanish colonists also recognized that Quechua could be used to consolidate their control and establish colonial power, especially in areas that were previously linguistically diverse (Mannheim, 1991; Klee, 2001). The colonists tentatively supported the maintenance of Quechua use among indigenous communities for strategic purposes—Quechua maintenance was only intended to consolidate the colonists' social control, maintain strict social hierarchies between the native communities and the colonizers, and to support the locals' conversions to Christianity (Klee & Caravedo, 2006; Mannheim, 1991). In general; however, Quechua still became subordinate to Spanish during this period— ultimately, Spanish became the

new source of political power and domination of the new ruling colonists (García, 2004; Klee, 2001).

During this time, bilingualism was fairly restricted, and Spanish-Quechua bilingualism remained relatively uncommon into the 1600's after the fall of the Inca Empire. García (2004), Escobar (2011), and Mannheim (1991) all note that knowledge of Quechua among the Spanish was limited to individuals who used Quechua for specific functions (i.e., Spanish clergymen). Likewise, knowledge of Spanish among the local Quechua community was limited. A select few indigenous elite were educated in Spanish, which was intended to keep local indigenous leaders on the side of the colonists, who remained dramatically outnumbered (Mannheim, 1991; Klee, 2001).

By the mid 1600's, the Spanish Empire enacted forced Hispanicization policies (mandates against the Quechua language and culture), which only grew stronger in the 1700's. At this point, a small number of indigenous bilinguals were also those who entered religious life or who served as political scribes, although they faced a continued lack of social mobility (Escobar, 2011; Klee & Caravedo, 2006).

By the time independent countries were established in South America throughout the 1800's, Spanish speakers continued to maintain social and political control in the region, even after gaining independence from Spain, and the Andes experienced a widespread language shift from Quechua to Spanish. In Peru specifically, Pozzi-Escot (1990) reports that this trend is manifested in census data: in 1940, over half of Peru's population reported knowledge of an indigenous language. By the 1980's, this proportion had decreased such that only about one quarter of Peru's population reported proficiency in an indigenous language. By 1990, Pozzi-

Escot (1990) reports that over half of those who reported speaking an indigenous language in Peru also could speak Spanish.

Meanwhile, some researchers have described this situation of increased interaction between Spanish and Quechua speakers as factors leading to the emergence of a then-new Spanish variety (Andean Spanish), which is outside the scope of the current dissertation but has been discussed extensively in the literature².

Alongside the spread of Spanish throughout the Andes, Quechua has maintained symbolic value in Peru. 1975 saw the officialization of Quechua alongside Spanish, albeit to limited effect. Peru's 1993 Constitution later established indigenous languages as official in areas where they numerically dominate (García, 2004; Firestone, 2012).

Further complicating the language landscape in Peru were mass migrations from the Andes mountains to urban areas along the coast in the 1980's and 1990's. These urbanization patterns accelerated the language shift from Quechua to Spanish. Not only did inhabitants of rural, often Quechua-speaking areas migrate to coastal cities for better standards of living, they also sought refuge from violent conflict between the Peruvian government and the *Sendero Luminoso* (Shining Path) guerilla group during this time (Escobar, 2011; Klee & Caravedo, 2006; Mannheim, 1991; Marr, 2011). The population of Peru's coastal capital of Lima, for example, increased to over 6 million residents by 1990 (compared to around 650,000 in the 1940's; Pozzi-Escot, 1990).

It is in this context of urbanization that immigrants who used Quechua in their home regions had clear motivation to learn and use Spanish in urban areas: to find

²See also works like Escobar (2007c; 2011); Rivarola (2000); Zavala, (1999)

success on the job market, to fit in culturally and socially, or to seek higher education. Hornberger and King (2004) point out that Quechua became linked with being from a rural area, being uneducated, or being poor. Spanish, on the other hand, became associated with education, in addition to professional and economic success. As will be discussed in the next section, these historical events have borne out in the current relationship between Spanish and Quechua speakers in Peru.

2.2.2 Current Language Ideologies Towards Quechua in Peru

The historical backdrop of colonialism has shaped the ways that language has become linked with social processes (collectively known as *language ideologies*) in Peru (Campbell Kiebler, 2006; Woolard, 2020). Spanish currently exists as Peru's common language (Hornberger & Coronel-Molina, 2004, 2011; Molina-Vital, 2011). Quechua faces a number of challenges that may contribute to negative ideologies (Limerick & Hornberger, 2019).

One such challenge is that Quechua faces poor intergenerational transmission (that is, transmission from one generation to the next) despite a relatively large number of native speakers currently (see also 2.2; Grenoble & Whaley, 1998; Nettle & Romaine, 2000; Hornberger & Coronel-Molina, 2004). There have been attempts to improve intergenerational transmission of Quechua, one notable example is Peru's nationwide bilingual education (*Educación Intercultural Bilingüe*) effort (Hornberger & Coronel-Molina, 2004, Coronel-Molina & Solon, 2011). These are schools in which indigenous languages (such as Quechua) serve as both a medium of instruction and have indigenous language proficiency as a goal (Martel, 2019; Cortina, 2014; Kvietok, 2019). However, researchers have observed that parents and communities may reject these bilingual education programs—seeing little practical reason to educate their

children in Quechua within a society where Spanish fluency is needed to progress for career or educational reasons (Marr, 2011; Hornberger, 1988; Firestone, 2012).

Complicating these bilingual education efforts are the fact that Quechua lacks a highly codified, standardized orthography—in Peru, but also across the Andes more generally— which is required to teach literacy and writing skills (Coronel-Molina & Solon, 2011; Limerick & Hornberger, 2019). Peru’s High Academy of the Quechua Language (*Academia Mayor de la Lengua Quechua*, henceforth *The Academia*), the representative body of the Quechua language within the Peruvian government³, has promoted one orthographic standard, Peru’s Ministry of Education has supported another, and Bolivia’s Ministry of Education yet another. Further yet, attempts to standardize Quechua orthography have been met with pushback from native speakers, who express alienation from regional varieties: One concern is that standardization may erase regional dialectal variation common in spoken Quechua (Limerick & Hornberger, 2019).

Within the orthography controversy, the decision to use a three-vowel or five-vowel system is particularly notable. The *Academia* favors a five-vowel system, /a, i, u, e and /o/. The five-vowel system is closely aligned with Spanish’s five-vowel orthography, which is designed such that each vowel retains what Spanish speakers perceive as unified pronunciations in all phonological environments. On the other hand, Peru and Bolivia’s Ministries of Education support a three-vowel system /a, i, u/ which more-closely mirrors patterns of the Quechua sound system: Vowels never appear next to each other without an intervening consonant, and /i/ and /u/ become

³See 6.2.1 for more discussion of the *Academia*

lowered to [e] and [o] (respectively) when adjacent to the uvular stop [q] (see examples (1) and (2) from Molina-Vital, 2011, p. 4 and 5, emphasis my own):

1. /tʃiqaq/ pronounced as [tʃeqaq] ‘true’
2. /suqta/ pronounced as [soqta] ‘six’

Also carrying ideological weight are the pronunciations of Spanish vowels by Quechua native speakers. Known as *motoseo* or simply *mote*, these pronunciations of Spanish are such that [e] is pronounced as [i], and [o] is pronounced as [u]. These variations arise from conflict between the phonological systems of Quechua and Spanish. Sociolinguists like Campbell-Kiebler (2006) have noted that linguistic variation may be associated with changes to social perceptions of speakers:

Understanding the structure of sociolinguistic variation requires understanding what information it conveys to listeners and how. Variation not only correlates with social structures but carries social meaning, influencing listener perceptions and, through them, social structures. (p. v)

Motoseo is likewise associated with certain social perceptions. Cerrón-Palomino (1972), Zavala (2011), and Kvietok Dueñas, (2019) have observed that the use of *motoseo* is stereotyped as a way to identify Quechua speakers who learned Spanish as a second language. A Quechua speaker may produce *pirro* instead of *perro* (‘dog’), or *dispues* instead of *después*, (‘after’) (Kvietok Dueñas, 2019, p. 48). Zavala (2011) has also written about negative stereotypes of individuals who speak with *motoseo*:

As can be noted, speaking with the *motoseo*—that is, producing a phenomenon that is expected for a Quechua speaker who learned Spanish as a second language—**implies being identified as a person from a rural community, who has not received a good education, and is possibly poor and ignorant with illiterate parents, etc.**

Therefore, cultural and intellectual inferiority is attributed based on a characteristic such as *motoseo*. (p. 397, emphasis my own)

Quechua's limited intergenerational transmission, its speakers' reliance on Spanish, and these stereotypes of individuals who speak Quechua-accented Spanish may indicate that Quechua speakers may be viewed with less respect compared to Spanish speakers.

However, there is growing evidence of positive ideologies surrounding Quechua more recently. For example, Manley (2008) reports overwhelmingly positive attitudes toward Quechua speakers and successful Quechua language maintenance practices among members of two particular nonprofit organizations in Cusco. This trend is particularly notable among younger speakers. Firestone (2012)'s ethnographic work in Peru showed that that first-generation urban youth, defined in the study as children of parents who both immigrated from rural areas and who spoke Quechua as a first language, are actively involved in maintaining Quechua cultural traditions (e.g., preparing traditional Andean foods, listening to Quechua *huayno* music), even in the absence of their parents.

Kenfield (2018) and (2019) also observes the growth of Quechua student organizations at one of Cusco's main universities, *Universidad Nacional de San Antonio de Abad del Cusco*. These findings align with work showing that younger individuals may tend to support maintenance and transmission of minority or endangered languages more strongly than older individuals (Loureiro-Rodriguez et al., 2013, O'Rourke, 2011).

Recent years have also seen the growth of new domains and media formats for the use of Quechua. Notable examples include the first doctoral dissertation written and defended in Quechua by Quispe-Collantes (2019) and the launch of several

Quechua activism accounts on social media, such as *@musquriy* on TikTok and Instagram, the *Urpichakunaq Rimaynin* ('The Language of the Youth') Facebook page, and *@quechuaestudio* on YouTube.

Molina-Vital (2021), Mendoza-Mori and Becerra Sanchez (2023), and Kvietok and Hornberger (2023) likewise report the growth of several video blogs ('vlogs') run by several Quechua college students. These vlogs are devoted to sharing experiences about indigenous life in the Andes, with topics including food, traditions, festivities, music, social issues, and since 2020, pandemic-related issues. Mendoza-Mori and Becerra Sanchez (2023) note that these vlogs are noteworthy in light of the fact that the vloggers' public personas seem to "...defy derogatory perceptions of what indigenous communities are meant to accomplish" by openly pursuing college education (p. 1).

Further complicating this landscape of language ideologies is the growing commodification of Quechua, with Quechua iconography and greetings often appearing in tokenistic displays in tourist materials and advertisements as a marker of Andean "authenticity" (Herrera, 2014; Gómez-Barris, 2012). Depictions of figures wearing traditional Andean clothing and carrying out traditional agricultural activities like digging up potatoes, caring for livestock, or weaving fabrics are commonly featured in Peruvian and Bolivian tourist materials (Babb, 2012; Van den Berghe & Ochoa, 2000). One such depiction comes from Jenkins (2009)'s *The Rough Guide to Peru*, which promises an idyllic rural landscape at the base of the Inca Trail such that visitors will be "greeted by a handful of Quechua women selling their mainly woolen craft goods" (p. 267). In this manner, Quechua has been used as a source of Andean "cultural branding" that can be turned into an economic resource (Zavala, 2023, p. 45).

Apart from these material manifestations of commodification, Zavala (2019) notes the emergence of Quechua as an economic resource, providing its speakers with access to economic opportunities (e.g., access to jobs at the Ministry of Education, universities, international funding agencies and nonprofits). However, wielding Quechua for economic opportunities in this manner has brought about a conflict-of-interest for some young Quechua activists. In ethnographic interviews with Quechua activists in their teens and early 20's, Zavala (2023) notes that, on one hand, increasing the perceived value of Quechua as emblematic of cultural authenticity is viewed as a positive, since it can be an opportunity to raise language awareness. On the other hand, Zavala observes that activists may worry about betraying Quechua to use it for economic gain.

In general, despite this complexity of language ideologies around Quechua, the majority of evidence still appears to skew in favor of Quechua having primarily negative associations in Peru.

2.2.3 Language Attitudes Studies on Quechua

Despite a large body of qualitative and ethnographic literature describing ideologies surrounding Quechua and Spanish, there have been few attempts to compare language attitudes towards Quechua and Spanish systematically. One early language attitudes study comparing responses to Quechua and Spanish speakers comes from Wölck (1973), who used speech samples from three speakers, all male: two Spanish-Quechua bilinguals and one Spanish monolingual. This study was not designed after the original Matched Guise paradigm, as the Spanish monolingual was not able to provide a speech sample in Quechua. The speech samples (guises) were not controlled for passage content. Instead, speakers were simply asked to narrate a

bullfight scenario. The study's participants were primarily men⁴ of all ages at all levels of Spanish-Quechua bilingualism. Participants evaluated each speech sample along a scale with polar traits (e.g., “ugly” and “pretty”) at each end. Study results showed that Spanish dominant participants tended to provide less-positive Responses to Quechua voices, and that highly-Quechua dominant participants provided more-positive evaluations of Quechua voices. The main pattern was that the participants' positive evaluations of Quechua tended to decrease the more heavily Spanish-dominant they were.

More recent work from McGowan and Babel (2020) found that Spanish native speakers in Bolivia with exposure to both Spanish-dominant and Quechua-dominant speakers responded differently to speech when they believed the speaker to be a Quechua-dominant speaker compared to a Spanish-dominant speaker. Researchers determined that the speaker said to be Quechua-dominant was rated as less fluent and less educated than the speaker said to be Spanish-dominant. In reality, the only differentiating factor was the social information provided, not any properties of the language itself. This finding continues a tradition of work demonstrating that speech perception depends, in large part, on listeners' expectations of a wide range of sociological factors (Niedzielski, 1999; Thomas, 2002; Salcedo Arnaiz, 2020). In addition to these negative traits associated with Quechua speakers uncovered in Wölck (1973), or simply the suggestion that a Spanish speaker is Quechua dominant (as was the case for McGowan and Babel, 2020), Hornberger (1989) and Hornberger and Coronel-Molina (2004) suggest that Quechua speakers themselves may harbor

⁴Wölck comments that “a few women...” participated but does not elaborate (p. 377).

internalized negative attitudes towards their own language, a point which the current dissertation aims to explore.

The current dissertation extends prior work discussing the history and present of the social and political relationships between Quechua and Spanish. A contribution of this study is that it samples bilingual participants, unlike previous studies, to provide a more complete picture of our understanding of the current state of Quechua-Spanish relations in Peru. What is currently unclear is if (and if so, the extent) these mixed ideologies towards Quechua and Spanish speakers addressed in 2.2.2 are actually manifested in the attitudes held by bilingual participants Peru.

2.3 Conclusion

The research reviewed in this chapter shows that the Matched Guise Technique is a well-established method for assessing language attitudes, which have been commonly evaluated in terms of the solidarity and status concepts. Although language ideologies in the Andes have been widely discussed, there is little in the way of quantitative, descriptive work documenting Peruvian bilinguals' attitudes towards Quechua and Spanish. The current study fills this gap by providing a systematic comparison of attitudes towards Quechua and Spanish using a well-established sociolinguistic technique (The Matched Guise Technique). The current study also tests predictions that Quechua and Spanish will pattern like other pairs of minoritized and majoritized varieties with respect to language attitudes, contributing to the discussion of the current state of the relationship between Quechua and Spanish. The following chapter will review the design of the current study, provide the detailed research questions and the hypotheses, and provide a description of the research participants and the procedures.

Chapter 3

METHODS: THE MATCHED GUISE STUDY

3.1 Introduction

In light of the social, historical, and political context surrounding Quechua and Spanish presented, the current attitudes held toward speakers of Quechua and Spanish speakers remain unclear. The general goal of this dissertation is therefore to understand Peruvian bilinguals' attitudes towards Quechua and Spanish speakers. The current study uses the Matched Guise Technique, a well-known sociolinguistic technique described in Chapter 2, to probe participants' relative attitudes towards spoken Quechua and Spanish. To this end, an online survey was constructed to address three general research questions. The participants in the present research listened to the experimental stimuli (speech samples) embedded in the survey, and they evaluated the speaker of each speech sample along the same set of questions. The participants remained unaware that speech samples were obtained from the same set of Quechua-Spanish bilingual speakers. The purpose of the Matched Guise paradigm is to ensure that variation in the participants' evaluative judgements can be attributed to the language of the voice itself.

This chapter first introduces the research questions and the hypotheses of the current study (3.2 and 3.3). Then, 3.4 describes the details of the survey methodology, including explanations of how the voice recording stimuli and survey questions were constructed. Demographics of the study participants and study procedure are discussed

in 3.5. Finally, the chapter concludes with a description of how the survey data were analyzed in 3.6.

3.2 Research Questions

As motivated in the first two chapters of the dissertation, the general goal of the current is to understand participants' relative attitudes towards Quechua and Spanish speakers. To this end, the current study addresses three specific research questions.

The first question investigates whether Quechua and Spanish speakers will be rated differently with respect to attitudes in general. The second question raised is whether ratings of Quechua and Spanish speakers will differ with regard to three different types of social considerations: Status, Solidarity, and Negative Bias. The third research question is whether two particular properties, participant age and participant gender, are associated with any systematic differences in the relative ratings of Quechua and Spanish speakers.

In particular, the issue addressed is whether the relative attitudinal ratings of Quechua and Spanish speakers will pattern like other pairs of majoritized—minoritized languages with respect to these properties. Grounded in prior literature on the relative social roles of the Quechua and Spanish languages, this dissertation tests hypotheses that Spanish will pattern like other majoritized varieties with respect to language attitudes, and that Quechua will pattern like other minoritized varieties (Salcedo Arnaiz, 2020; Cavallaro & Bee Chin, 2009; Bilaniuk, 2003; see 2.1.3).

Finally, as described in 2.14, previous Matched Guise studies often attribute variation in attitudes to variation in properties of the speaker. Additional factors that could be taken into consideration are properties of the listener (participant). However,

manipulations to properties of the listener, while holding speaker properties constant, have provided unclear patterns of results in the Matched Guise literature (Bergstrom, 2017; Lukkarila et al., 2012; see 2.1.4).

3.3 Hypotheses

The current study tests six hypotheses pertaining to the research questions presented in 3.2. Beginning first with a general prediction, Hypothesis 1 predicts that the participants will exhibit positive attitudes (i.e., higher ratings) towards Spanish speakers than Quechua speakers, with all the questions pooled:

Hypothesis 1: Spanish speakers will receive higher ratings than Quechua speakers, for all questions combined.

Not only does the current research test this general prediction, it also probes attitudes with respect to three different question categories: Status, and Solidarity, and Negative Bias. It was thought that pooling all questions would provide additional insight into the participants' language attitudes apart from those in the three unique question categories as addressed in Hypotheses 2, 3, and 4.

Turning to Hypotheses 2 and 3, previous research shows that speakers of minoritized language varieties often rate their own speech varieties as higher than majoritized varieties with respect to solidarity traits (e.g., Salcedo Arnaiz, 2020, Luhman, 1990). On the other hand, minoritized varieties tend to be rated lower along status traits compared to majoritized varieties (see 2.1.3). Based on research on the long history of relationships between Quechua and Spanish in Peru described in 2.2.1 and 2.2.2, it is predicted that Spanish will pattern like a majoritized language, and Quechua will pattern like a minoritized language.

A common narrative of language ideologies in Peru is that spoken Quechua still carries with it social stigmas, which is often attributed to a history of Spanish colonialism in the Andes (see 2.2.1 and 2.2.2). Spanish, on the other hand, is often acknowledged as the prestige language of the country, serving as the language most commonly used in the government, in education, and in the media, motivating the association of Spanish with higher Status. Meanwhile, it was also observed that Quechua is becoming reclaimed as a source of cultural pride, further motivating the association of Quechua with Solidarity.

It is expected that ratings of Spanish speakers and Quechua speakers will vary inversely with respect to Status and Solidarity, two well-established sociolinguistic concepts found to be useful for distinguishing language attitudes in such majoritized-minoritized pairs (Cavallaro & Bee Chin, 2009; Bilaniuk, 2003). The rationale is that the participants in the current study will show an in-group preference for Quechua speakers (resulting in higher Solidarity ratings for Quechua speakers) over Spanish speakers. See Hypotheses 2 and 3:

Hypothesis 2: Spanish speakers will receive higher ratings than Quechua speakers on the Status category.

Hypothesis 3: Quechua speakers will receive higher ratings than Spanish speakers on the Solidarity category.

Turning to the final question category, Hypothesis 4 predicts that the participants will rate Quechua speakers more highly than Spanish on Negative Bias. The logic of this prediction is that the bilingual participants in the current study, who themselves are of Quechua backgrounds, may be internalizing the stereotypes often surrounding Quechua speakers in the Andes. This assessment of positive and negative attitudes is in alignment with foundational Matched Guise research that assessed

language attitudes with survey questions including terms like “pretty”, “ugly”, “good”, and “bad” (2.1.3). As will be addressed later this chapter, the questions in the Negative Bias category were carefully designed to avoid these highly loaded terms, while also assessing language stereotypes in a way that would not be captured in either the Status or Solidarity categories (Hypotheses 2 and 3), or as an average of the pooled questions (Hypothesis 1).

Hypothesis 4: Quechua speakers will receive a higher rating than Spanish speakers on the Negative Bias category.

It is also possible that there could be differences in the ratings of Quechua and Spanish with respect to age and gender of the participant. Less is known about these factors with respect to the Matched Guise Technique and within the Quechua context. For example, 2.1.4 presented a breadth of sociology and psychology research indicating variation in attitudinal responses based on generation and gender, and results using the linguistic Matched Guise Technique likewise exhibit substantial variation. Moreover, as addressed in 2.2.1 and 2.2.2, there is research suggesting that younger Quechua speakers, in particular, are becoming highly involved in Quechua activism. There is also work to indicate that younger individuals support the transmission of minority or endangered languages more strongly than older individuals. Ultimately, however, there is not sufficient motivation in the Quechua context to formulate directional predictions regarding participants’ age or gender for the current study. Instead, Hypotheses 5 and 6 test the null hypotheses:

Hypothesis 5: The older participants will not significantly differ from the younger participants in their ratings of Quechua speakers compared to Spanish speakers.

Hypothesis 6: The male participants will not significantly differ from the female participants in their ratings of Quechua speakers compared to Spanish speakers.

3.4 Survey Design

3.4.1 Speech Recordings

An online survey was constructed in order to compare attitudes towards speakers of Quechua and speakers of Spanish. As described in section 2.1.2, Matched Guise research often uses multilingual or multidialectal speakers to produce multiple voice recordings of a passage. Listeners assume that each voice they hear comes from a different speaker, but in reality, one speaker yields multiple voices, each in a different language or variety. Holding the speaker consistent ensures that variations in listener judgement can be attributed to the language of the voice itself, as opposed to any confounding properties of the speaker. In the current study, four Peruvian multilingual speakers provided two recordings each: one recording of a passage in Quechua, and one recording of the same passage in Spanish. This design yielded eight speech stimuli samples balanced for speaker gender. I henceforth refer to each unique voice recording as a *voice* (see Table 1). The speakers in the current study were of the same approximate age range (mid 30's to 40's). Each speaker grew up speaking Quechua in the areas surrounding Cusco, Peru and learned Spanish upon entering the Peruvian education system. Demographic information of the speakers who provided voice recordings is provided in Appendix A.

Table 1: Eight Matched Guise Voices

Speaker #1, male	Speaker #2, female	Speaker #3, male	Speaker #4, female
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Male Spanish voice #1a	Male Quechua voice #1b	Female Spanish voice #2a	Female Quechua voice #2b	Male Spanish voice #3a	Male Quechua voice #3b	Female Spanish voice #4a	Female Quechua voice #4b
------------------------	------------------------	--------------------------	--------------------------	------------------------	------------------------	--------------------------	--------------------------

The passage was framed as a voicemail. This context was developed with the expectation that the participants might be more comfortable making honest character judgements based on a realistic context than based on hearing voices in isolation. Prior Matched Guise research often uses fixed passages of prose without context (see 2.1.2). Moreover, a voicemail was thought to be a context familiar for a wide age range of participants, as opposed to a generationally restricted context (e.g., a school lecture, which might only be familiar to the younger participants). Several native speakers of Cusco Quechua also judged a voicemail as a natural context for the use of Quechua and Spanish speech alike.

The instructions accompanying the voice recordings of the passage prompted the study participants to imagine that they were selling a car through an ad placed in a local newspaper. The participants were told that several potential buyers called to inquire about the car for sale. The participants were told that they could not answer the calls while busy at work, so interested individuals left voicemails for them to listen to. Several native speakers of Cusco Quechua and of Peruvian Spanish ensured that the Quechua and Spanish translations of the passage were natural. The Spanish version of the passage appears in example (3), and the Quechua version appears in example (4). The English translation appears in example (5).

3. Spanish Passage

Hola, estoy interesado/a en comprar su carro anunciado en el periódico. Le llamé y no me contestó, le volveré a llamar más tarde. Gracias.

4. Quechua Passage

Allillanchu, carruyki rantiytan munashani, periodicupin churarusqanki huk willakuyta. Achachaw, manan chaypichu kashasqanki. Kunan tutata yapamanta waqyamusqayki. Añay.

5. English Translation

Hello, I am interested in the car advertised in the newspaper. I am sorry that I missed you. I will call you back this evening. Thank you.

Each of the four speakers used their own personal cell phones or computers to make two recordings of the passage (one in Spanish and one in Quechua). The recordings ranged from ten to 18 seconds in duration. Praat was used to check that the recordings did not include a large amount of background noise (Version 6.2.23; Boersma & Weenink, 2022).

Two Peruvian Spanish speaking listeners provided their subjective feedback of each of the four Spanish recordings of (3). The first listener reported no identifiable Quechua influence in any of the recordings, and they were not able to identify a particular region of origin in Peru for any of the speakers. The listener commented that they might be able to better-identify Quechua influence had the passages been longer. Finally, the listener noted that the speaker #1 (male) and speaker #2 (female) seemed particularly articulate and careful compared to speaker #3 (male) and speaker #4 (female). The second listener likewise noted that the speech of speaker #1 (male) and speaker #2 (female) seemed slower and more deliberate than the speech from the other 2 speakers. This listener also noted that they did not notice particularly obvious instances of *mote* (vowel lowering, see 2.2.2), but that longer passages may have been helpful.

3.4.2 Survey Questions and Categories

The survey questions were designed to elicit language attitudes — in line with the general research question of whether the relative attitudinal ratings of Quechua speakers would differ from those of Spanish speakers (see 1.2), and to test the hypotheses presented in 3.3. The survey questions were based on previous Matched Guise research (see 2.1.2 and 2.1.3), were designed to fit the Peruvian cultural context, and were developed to fit the three particular concepts of interest. 6 questions were in the Solidarity category, 6 were in the Status category, and 6 were in the Negative Bias category—for a total of 18 questions analyzed. For the purposes of the current study, Solidarity is defined as the extent that a speaker is perceived to be a friendly, honest, and responsible member of the community. Status is defined as the speaker's perceived socioeconomic status. These two categories are well-documented in prior literature (e.g., Cavallaro & Bee Chin, 2009; Hiraga, 2005; see also 2.1.3). Negative Bias is defined as a perception of a general cultural stereotype, and this category is developed in the current dissertation: the Negative Bias category is patterned after questions in foundational Matched Guise research (e.g., Lambert et al., 1960, 1965; Ryan & Carranza, 1975) that assess general positive or negative perceptions of a speaker. However, the questions in these early studies use very loaded wordings (e.g., if a speaker sounds attractive or ugly). It was felt that modern participants would have reservations answering questions worded in this manner. Therefore, the questions in Negative Bias category were intended to capture the intention of original Matched Guise studies using questions palatable to modern participants.

First, a systematic review of previous Matched Guise research was conducted to determine a comprehensive list of appropriate question topics that would reflect the Status, Solidarity, and the Negative Bias concepts (see 2.1.3). The questions were then

developed through an iterative process during discussions among the research team. Each topic was formulated as a survey question designed to measure the participants' social perceptions of the voices using specific examples. For instance, a general theme of wealth was found to be frequent theme in Status categories in prior Matched Guise research. This topic was then formulated using a specific manifestations of wealth, for example, "Would this person hire cleaners?" (see also Table 2).

The survey questions were refined based on the evaluation and advice of a research team, which included a trained linguist with expertise on Peruvian culture, along with a group of native speakers of Peruvian Spanish and Quechua. The survey questions were deemed to be culturally appropriate. Moreover, because voice gender was not a variable intentionally manipulated in the current study, the questions were designed such that they would not yield dramatically different responses to male and female voice. For example, although the notion of "wearing nice clothing" perhaps might appear to measure socioeconomic status on the surface, such a question would likely yield different responses to male voices than female voices (with the assumption that any female voice would be more likely than any male voice to wear nice clothing, regardless of socioeconomic status).

The survey questions were structured as specific, imaginary scenarios. The use of different question structures was intended support the participants' focus, instead of the use of a single question format, which could be monotonous for the participants and therefore lead to inaccurate survey responses. In light of the criticism of the use of hypothetical questions to measure language attitudes, the questions in the current study present specific, real-world scenarios about individual interactions by the speaker and the listener. These scenarios are distinct from the abstract hypotheticals of

the sort critiqued by researchers like Garrett (2010) and Oppenheim (1992) (see 2.1.1). The question formats developed in the current study prompted the participants to imagine the personal qualities of the speaker, how the speaker might behave, or how the speaker might interact with the participant. Example (6) provides Spanish versions of these question structures, and example (7) provides English translations:

6. Spanish Question Structures

- a. ¿Cree que esta persona...?
- b. ¿Qué tan probable es que esta persona...?
- c. ¿Qué tan probable es que usted...?

7. English Translations

- a. Would this person...?
- b. How likely is this person to...?
- c. How likely are you to...?

In addition, an equal number of filler questions not analyzed were also interspersed in the survey. These filler questions were intended to distract from the intention of the research (see Appendix A). Table 2 provides all survey questions, with the exception of fillers. Identifiers used to refer to individual questions in the rest of the dissertation (ST for Status questions, SO for Solidarity questions, and NB for Negative Bias questions).

Table 2: Survey Questions

<i>Measure</i>	<i>Identifier</i>	<i>Question</i>
Status	ST1	<i>¿Qué tan probable es que esta persona haya completado un alto nivel de educación formal?</i> 'How likely is this person to have completed a high level of education?'
	ST2	<i>¿Qué tan probable es que esta persona compre principalmente en tiendas caras?</i> 'How likely is this person to shop mostly in expensive stores?'
	ST3	<i>¿Qué tan probable es que esta persona dé regalos generosos?</i> 'How likely is this person to give generous gifts?'
	ST4	<i>¿Cree que esta persona enviaría a sus hijos a la universidad?</i> 'Would this person send their children to university?'
	ST5	<i>¿Cree que esta persona provendría de una familia pudiente?</i> 'Would this person come from a family with a comfortable income?'
	ST6	<i>¿Cree que esta persona contrataría un personal de limpieza?</i> 'Would this person hire cleaners?'
Solidarity	SO1	<i>¿Cree que esta persona daría un consejo confiable sobre preocupaciones personales?</i> 'Would this person give reliable advice on personal concerns?'
	SO2	<i>¿Qué tan probable es que esta persona le devuelva el favor (a usted) si la ayuda?</i> 'How likely is this person to return the favor if you help them?'
	SO3	<i>¿Se le confiaría a esta persona secretos importantes?</i> 'Would this person be trusted with important secrets?'
	SO4	<i>¿Qué tan probable es que usted quiera a esta persona en la fiesta de cumpleaños de un familiar suyo?</i> 'How likely are you to want this person at your relative's birthday party?'
	SO5	<i>¿Cree que esta persona sería un buen vecino?</i> 'Would this person make a good neighbor?'
	SO6	<i>¿Qué tan probable es que usted confíe en esta persona en caso de una emergencia?</i> 'How likely are you to trust this person in an emergency?'
Negative Bias	NB1	<i>¿Cree que esta persona se quedaría con una billetera perdida que se encontró?</i> 'Would this person keep a lost wallet they found?'
	NB2	<i>¿Cree que esta persona avisaría al cajero si le devolvieran por demás el cambio?</i> 'Would this person notify the cashier if they were given too much change back?'
	NB3	<i>¿Cree que esta persona se disculparía por sus errores?</i> 'Would this person apologize for their mistakes?'
	NB4	<i>¿Qué tan probable es que esta persona hable amablemente de los demás?</i> 'How likely is this person to speak kindly about others?'
	NB5	<i>¿Cree que esta persona cumpliría con las citas?</i> 'Would this person keep appointments?'
	NB6	<i>¿Cree que esta persona sería bien recibida si visitara una tienda de lujo?</i> 'Would this person be warmly welcomed if browsing at an upscale shop?'

3.5 Participants

The general demographic characteristics of the participants are reported in this section. The general characteristics of the participants are as follows. 48 total participants completed the survey. The participants reported no history of speech, language, or hearing disorders. Half of the participants were men, and half were women. Half of the participants were older adults (defined here as ages 50 and above, mean age 66), and half were younger adults (ages 18-35, mean age 24). The demographic questions are provided in Appendix A.

The participants also satisfied criteria of being bilingual in Quechua and Spanish and literate in Spanish. Quechua literacy was not a requirement for the current study, because Quechua primarily functions as a spoken language in Peru (see 2.2.2). Given that the current study entailed comprehension of spoken Quechua and Spanish, it was crucial that the participants be bilingual in spoken Quechua and spoken Spanish (see 3.5.2).

Although language dominance was not a variable tested in the current study, participants were assumed to be Spanish dominant, because Spanish remains the dominant language in Peru (see 2.2.1 and 2.2.2). The participants' responses to the demographic questions revealed that the language most commonly among their family and friends tended to be a mixture of both Quechua and Spanish. Although the participants' education level ranged from not having finished high school to having completed postgraduate education, the majority of participants had completed a high-school level of education.

Given the number of participants, it was not possible to control for these additional variables such as education level or language proficiency, so although this information was collected, these variables were not tested statistically (assessing

additional independent variables would yield very small, granular sample sizes). The information collected from all 48 participants is presented in Appendix A and may suggest questions for future research exploring the level of bilingualism on language attitudes. All participants were located in the city of Cusco, Peru at the time of the study.

3.5.1 Recruitment

With the Covid situation at the time of the study having precluded in-person data collection, communication with participants was conducted via email, WhatsApp, or Facebook.

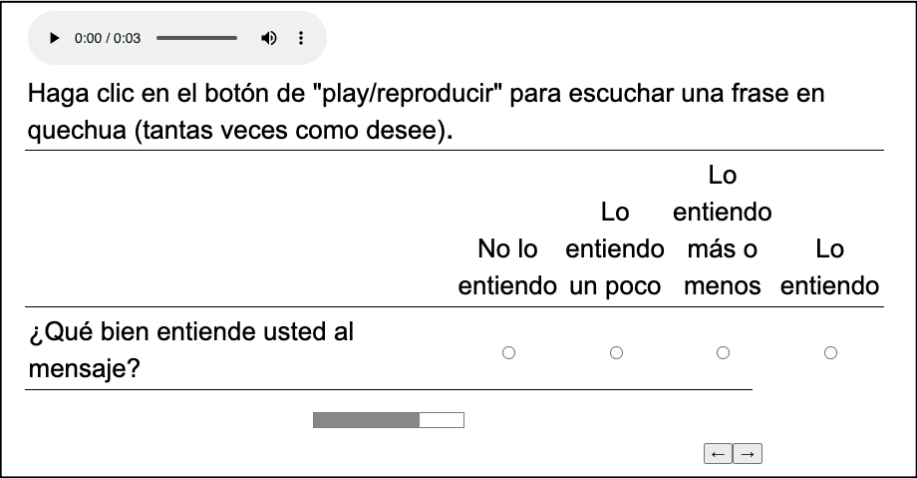
Given that this work on a historically marginalized language community by an academic from outside that community, an effort was also made to ensure that any interested individuals felt comfortable dealing with a community outsider (see also 6.5). Pre-existing local Peruvian contacts in Cusco's Quechua community spread information about the project amongst their family and friends, and this recruitment strategy was intentional in order to build trust and rapport among the participants. The interested individuals were asked about their preferred means of communication and best times of day for contact. All future communication was conducted according to the means of the participants' choosing.

3.5.2 Screening

The participants' eligibility to complete the main survey was assessed using a short, five-minute preliminary screening. Given that very basic Quechua is present in the Andes through ideologies like commercial commodification and stereotypes of Quechua accented Spanish speech (see 2.2.1 and 2.2.2), Van den Berghe and Flores

(2000) have suggested that very basic Quechua words and phrases may be salient among Peruvians who would generally be considered Spanish monolinguals. Screening sentences were intended to check for basic communicative competency in Quechua. The screening was intended to identify out Spanish monolinguals with only a general understanding of Quechua greetings and to ensure that participants could understand the Quechua speech samples embedded in the main survey.

This screening was sent to interested individuals shortly after initial outreach with each individual. In the screening, individuals listened to three different sentences in Quechua and rated how well they understood each on a Likert scale (see Figure 3). Recordings were obtained from one female native Quechua speaker, and they were checked using Praat to ensure they did not include a large amount of background noise (Version 6.2.23; Boersma & Weenink, 2022).



▶ 0:00 / 0:03 — 🔊 ⋮

Haga clic en el botón de "play/reproducir" para escuchar una frase en quechua (tantas veces como desee).

Lo entiendo
Lo entiendo más o menos
No lo entiendo un poco
No entiendo

¿Qué bien entiende usted al mensaje?

◀ ▶

Figure 3: Preliminary Screening: Quechua Comprehension Sample Question

Translation: 'Click the "play" button to hear a sentence in Quechua (listen as many times as you'd like) ... 'How well can you understand this message?' ... 'I don't understand it, I understand a little, I more or less understand it, I understand it'

Example (8) shows the sentences used as recordings in the preliminary screening. The individuals interested in the survey were tasked with completing a self-reported comprehension task, answering “How well can you understand this message?” for three sentences. For the purposes of the study, suitable Spanish-Quechua bilingualism was taken to be Responses to *Lo entiendo más o menos* (‘I more or less understand it’) or *Lo entiendo* (‘I understand it’) for at least two out of the three Quechua sentences in example (8) (see (9) for English translations). Several individuals completed the screening but did not meet the eligibility criteria.

8. Quechua Screening Sentences

- a. Hatun wasipi tiyani.
- b. Allqukuna mikhuchini.
- c. Inti k'anchan p'unhawpi.

9. English Translations

- a. I live in a big house.
- b. I feed the dogs.
- c. The sun shines during the day.

3.6 Procedure

After completing the preliminary screening, the eligible participants were then sent a second link, which contained a consent form (see Appendix B), the relevant

demographic questions (see Appendix A), and the main survey task. Figure 4 shows the instructions given to participants (see 3.4.1).

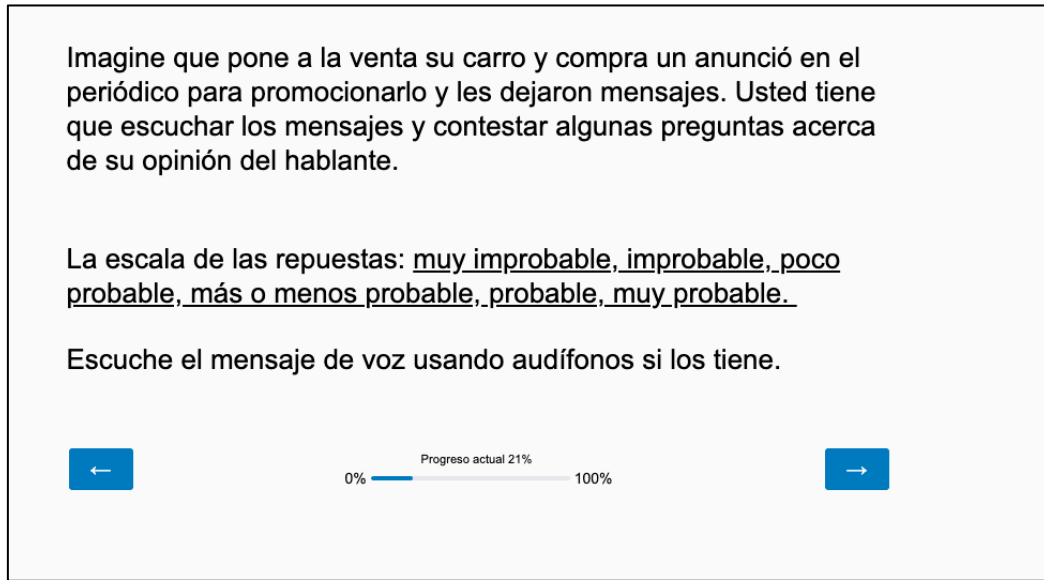


Figure 4: Matched Guise Survey: Directions

Translation³

All 36 questions accompanying each voice appeared in random order in small blocks of no more than 10 questions each (see Figure 5). This format was meant to ensure that the participants would not have to scroll excessively to answer all questions at once, since many of the study's participants were expected to complete the survey on smartphones. Additionally, all eight voices, with their accompanying question, appeared in random order in relation to each other. The participants answered each question on a Likert scale to ensure the relative attitudinal ratings could be easily converted into numerical scores.

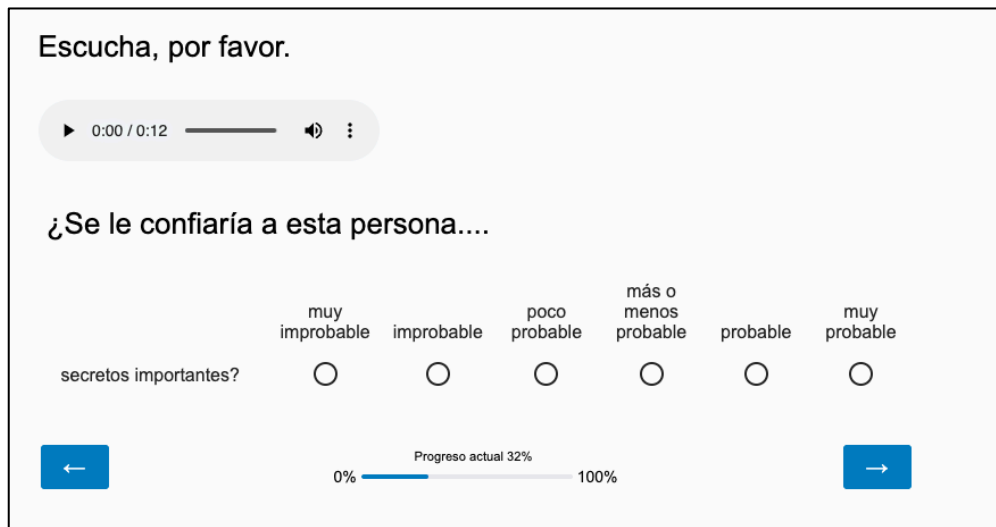


Figure 5: Matched Guise Survey: One Voice & One Evaluative Question

Translation: 'Listen, please' ... 'Would this person be trusted with important secrets' 'Very unlikely, unlikely, more or less unlikely, a little likely, likely, very likely'

In total, the main experimental survey lasted approximately 45 minutes. Short motivational messages appeared throughout the survey. Upon completion of the study, each participant was compensated the equivalent of 10 USD, with the assistance of a colleague in Cusco.

3.7 Data Analysis

3.7.1 Question Scoring and Averaging

The survey Responses to *Muy improbable* ('very unlikely'), *improbable* ('unlikely'), *poco probable* ('a little likely'), *más o menos probable* ('more or less likely'), *probable* ('likely'), *muy probable* ('very likely') were coded into numerical

ratings: 1, 2, 3, 4, 5, or 6, respectively. A rating of 6 represented the most favorable score for each question, and 1 represented the least favorable. For question NB1, a rating of 1 logically represented a very favorable attitude (see Table 2, 3.4.2). Therefore, numerical responses to this particular question were inverted (such that 1 became 6, 2 became 5, 3 became 4, and so on) to ensure that responses to all questions used an identical scale. It was assumed that all scale points were equidistant.

For each question, ratings of the four Quechua and four Spanish voices were combined to form an average voice rating for each language. This process was repeated for each participant. Average ratings for Status, Solidarity, and the Negative Bias categories were created by calculating an average of the combined Quechua voice ratings of the questions included in the category, with this process repeated for Spanish voices, as well.

3.7.2 Comparisons of Mean Responses

To test Hypothesis 1, Welch's t-tests at a 95 percent confidence interval were used to assess whether the mean response Spanish voices was significantly different from the mean response of Quechua voices for all questions combined (Hypothesis 1). This comparison was repeated on the means from each voice language for the Status category (Hypothesis 2), the Solidarity category (Hypothesis 3), and the Negative Bias category (Hypothesis 4), as well.

To explore whether patterns in the ratings of Quechua voices versus Spanish voices differed by participants groups, averages from each voice language were compared for significance within each subset of participants for the Status and Solidarity categories. As will be addressed in the next chapter, mean responses from all questions combined and the Negative Bias category were not analyzed in this

manner: Ultimately, there was no significant difference in the mean response to the Spanish voices compared to the Quechua voices in two situations: for all questions combined, and for the Negative Bias category.

Chapter 4

SURVEY RESULTS

This chapter reports results of the Matched Guise study, which compares bilingual Peruvians' attitudes towards Quechua and Spanish voices. As discussed in Chapter 3, all participants completed the same online survey in which they rated speakers of Quechua and speakers of Spanish speech along the same set of attitudinal questions.

All ratings provided by the participants were coded numerically and submitted for analysis, as discussed previously. By analyzing the mean responses recorded from the participants, the current chapter answers whether Quechua and Spanish speakers are rated differently with respect to attitudes in general (Hypothesis 1), and whether the ratings of each language will differ with regard to Status (Hypothesis 2), Solidarity (Hypothesis 3), and Negative Bias (Hypothesis 4).

After Hypotheses 1 through 4, this chapter turns to Hypotheses 5 and 6, which test if the study's older participants will significantly differ from the younger participants in their ratings of Quechua speakers compared to Spanish speakers (Hypothesis 5), and whether the male participants will significantly differ from the female participants in their ratings of Quechua speakers compared to Spanish speakers (Hypothesis 6).

4.1 Comparisons Between Voice Languages

4.1.1 Pooled Questions

Comparisons between mean responses to Quechua voices and Spanish voices were conducted (see also 3.7.1 and 3.7.2 for a description of how data were analyzed) using the responses averaged from all participants. Hypothesis 1 tested whether the mean response to Spanish voices compared to Quechua voices would differ for all participants, with all questions combined.

As seen in Table 3, there was no significant difference between the mean responses to Spanish voices compared to Quechua voices, with all the participants combined.

Table 3: Mean Responses to Spanish versus Quechua Voices, Pooled Questions

<i>Pooled Questions</i>	Quechua voices	Spanish voices	p-val.	t-stat.	D.F.
All participants	3.5	3.53	.33	-.98	6157.9

This finding indicates that Hypothesis 1 was rejected. It could be the case that this non-significant result of all questions combined is due to the nature of the component categories. As will be seen in the following sections, the Solidarity and Status findings are distributed in opposite ways for the two languages, which potentially brings the pooled results to the middle.

4.1.2 Status

It was also asked if the mean response of Quechua voices and Spanish voices would differ with respect to the three question categories individually. Hypothesis 2 tested if Spanish speakers would receive higher ratings than Quechua speakers on the

Status category. Table 4 provides the mean Responses to Spanish voices compared to Quechua voices with respect to the Status category for all participants. Spanish voices were rated as significantly higher on the Status category, thus confirming Hypothesis 2.

Table 4: Mean Responses to Spanish versus Quechua Voices, Status

<i>Status</i>	Quechua voices	Spanish voices	p-val.	t-stat.	D.F.
All participants	3.57	4.12	<2.2e-16	-9.97	2241.4

4.1.3 Solidarity

Turning now to Hypothesis 3, which tested if Quechua speakers might receive higher ratings than Spanish speakers on the Solidarity category, consider Table 5 below. It is clear that Quechua voices were rated as significantly higher Solidarity than Spanish voices when the responses from all participants were combined. Thus, Hypothesis 3 is confirmed.

Table 5: Mean Responses to Spanish versus Quechua Voices, Solidarity

<i>Solidarity</i>	Quechua voices	Spanish voices	p-val.	t-stat.	D.F.
All participants	4.11	3.7	1.29e-12	7.14	2300.1

4.1.4 Negative Bias

The final hypothesis relating to the survey question categories was Hypotheses 4, which tested if Quechua voices would receive a higher rating than Spanish voices along Negative Bias category among all participants. As observed in Table 6, there

was no significant differences in the ratings of Quechua and Spanish voices for Negative Bias, thus rejecting Hypothesis 4.

In fact, analysis of individual Negative Bias questions revealed that means between Quechua voices and Spanish varied in directionality (i.e., means were higher for Spanish voices than for Quechua voices and also vice versa). The Negative Bias category was intended to mimic the questions in foundational Matched Guise research that assessed general positive or negative perceptions of a speaker; however, based on the results presented here, it is clear that the Negative Bias questions did not behave in a unified manner as intended.

Table 6: Mean Responses to Spanish versus Quechua Voices, Negative Bias

<i>Negative Bias</i>	Quechua voices	Spanish voices	p-val.	t-stat.	D.F.
All participants	4.13	4.12	.7396	-.33	2273.2

4.1.5 By Participant Age and Participant Gender

This study also considers the possible contribution of participant age and gender. Hypotheses 5 and 6 simply test the null hypotheses regarding differences by participant age and gender, given that it is not necessarily clear from the literature what to expect in detail.

Given that the pooled findings, in addition to the Negative Bias category, were not significant in the “all participants” group, only the results from the Status and Solidarity were submitted for analyses regarding participant age and gender. The matter of whether variation in the participants’ age and gender is associated with any systematic differences in the relative ratings of Quechua and Spanish is intended to

inform future research. Given that there are very few observations for the finely divided categories of participant age and gender combined (e.g., younger female participants, older male participants, etc.), the analyses presented here are meant to be preliminary.

4.1.5.1 Status

Figure 6 shows that Spanish voices were rated as significantly higher on the Status category, regardless of participant age or participant gender. Table 7 shows the p-values, t-statistics, and degrees of freedom.

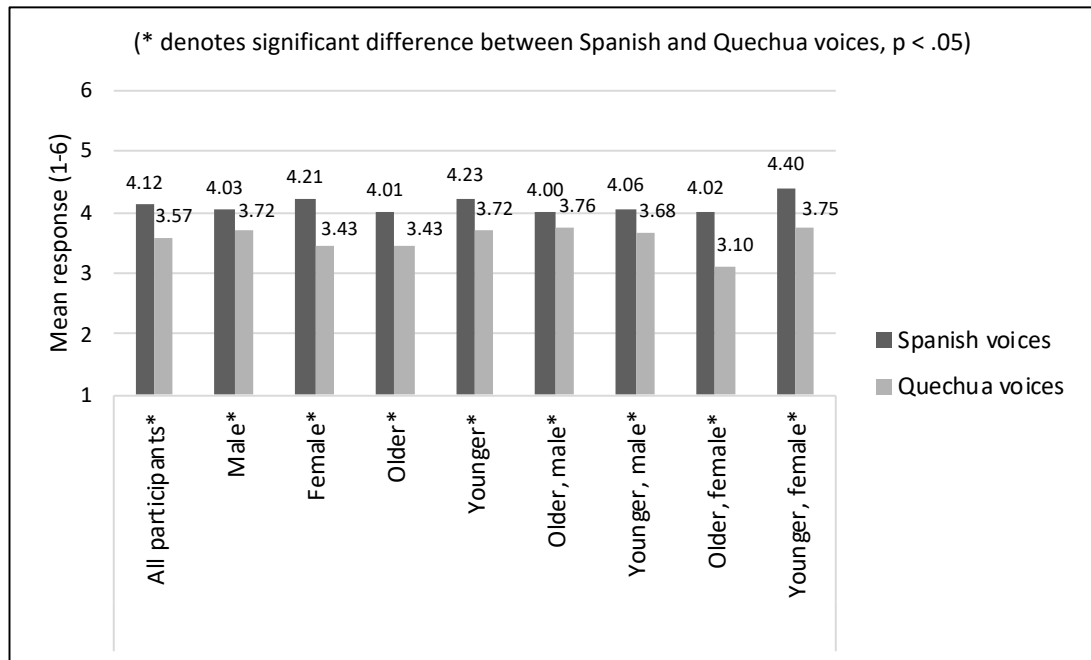


Figure 6: Mean Responses to Spanish versus Quechua Voices by Participant Age and Gender, Status

Table 7: Mean Responses to Spanish versus Quechua Voices by Participant Age and Gender, Status

Status	Quechua voices	Spanish voices	p-val.	t-stat.	D.F.
Male	3.72	4.03	<2.26e-5	-4.26	1122.1
Female	3.43	4.21	<2.2e-16	-9.64	1119.4
Older	3.43	4.01	<3.693e-15	-7.98	1126
Younger	3.72	4.23	<4.34e-10	-6.30	1114.8
Older, male	3.76	4.0	0.01	-2.48	559.79
Younger, male	3.68	4.06	0.0005	-3.50	560.33
Older, female	3.10	4.02	< 2.2e-16	-8.87	570.89
Younger, female	4.4	3.75	1.312e-7	-5.34	549.71

4.1.5.2 Solidarity

Figure 7 shows that Quechua voices were rated as significantly higher Solidarity than Spanish voices, and this pattern was true regardless of participant age or participant gender (see also Table 8).

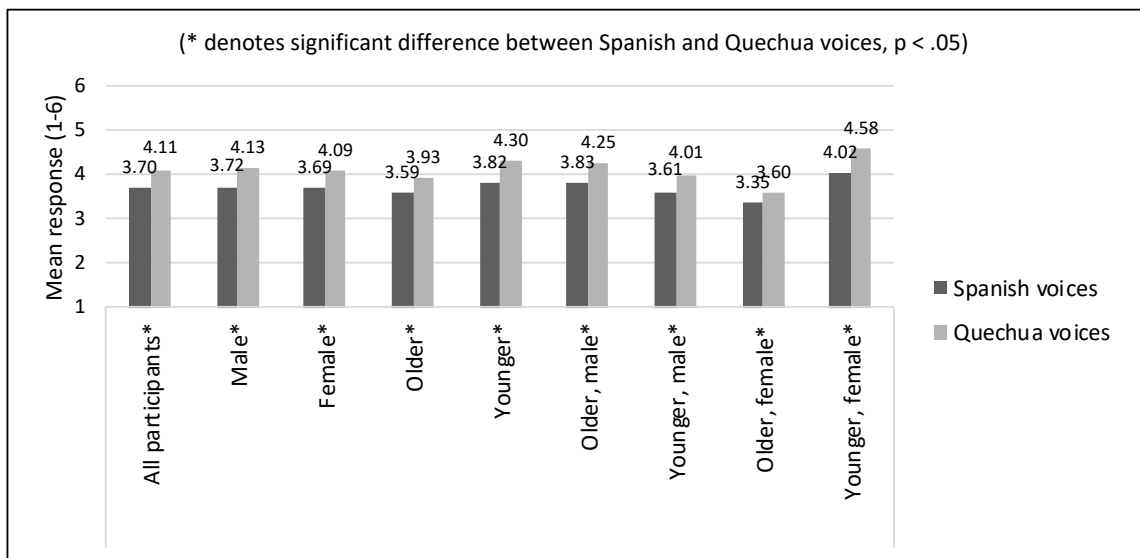


Figure 7: Mean Responses to Spanish versus Quechua Voices by Participant Age and Gender, Solidarity

Table 8: Mean Responses to Spanish versus Quechua Voices by Participant Age and Gender, Solidarity

<i>Solidarity</i>	Quechua voices	Spanish voices	p-val.	t-stat.	D.F.
Male	4.13	3.72	5.22e-8	5.48	1146.4
Female	4.09	3.96	3.18e-6	4.68	1149.9
Older	3.93	3.59	1.85 e-5	4.30	1148.4
Younger	4.30	3.82,	7.33e-9	5.83	1137.9
Older, male	4.25	3.83	3.00 e-5	4.21	573.43
Younger, male	4.01	3.61	.0003	3.60	570.44
Older, female	3.6	3.35	.03	2.17	571.32
Younger, female	4.58	3.58	2.708e-06	4.74	561.32

4.2 Comparisons Within Voice Language

The results thus far have presented between-language differences (i.e., differences in ratings between Quechua and Spanish, repeated for various groups of participants), but the data collected for this study also allow for within-language analyses between both participant age and participant gender.

No hypotheses on account of within-language data were developed, and these within-language findings are intended to be secondary to the primary between-language findings presented preciously. It was thought that within-language analysis might reveal minor nuances in language attitudes not considered in between-language analyses. Ratings within Quechua voices are explored, as is variation within ratings of Spanish voices, for the Status and Solidarity question categories.

With respect to the Status category, Figure 8 shows that younger participants rated Quechua voices as significantly higher on Status than older participants did for those same voices. This pattern was true for Spanish, as well (see also Table 9 for statistical information).

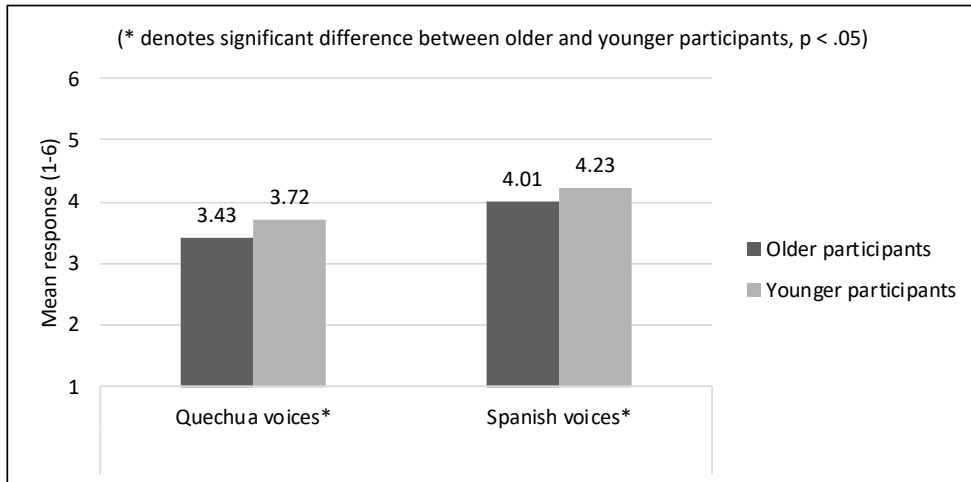


Figure 8: Mean Responses by Older versus Younger Participants, Status

Table 9: Mean Responses by Older versus Younger Participants, Status

Status	Older	Younger	P-val.	t-stat.	D.F.
Quechua voices	3.43	3.72	.0005	-3.47	1132.2
Spanish voices	4.01	4.23	-3.14	.002	1140.1

Likewise, with respect to Solidarity, Figure 9 shows that younger participants rated both Quechua voices and Spanish voices alike as higher on average than older participants did for the same voices. Refer to Table 10 for statistical information accompanying Figure 9.

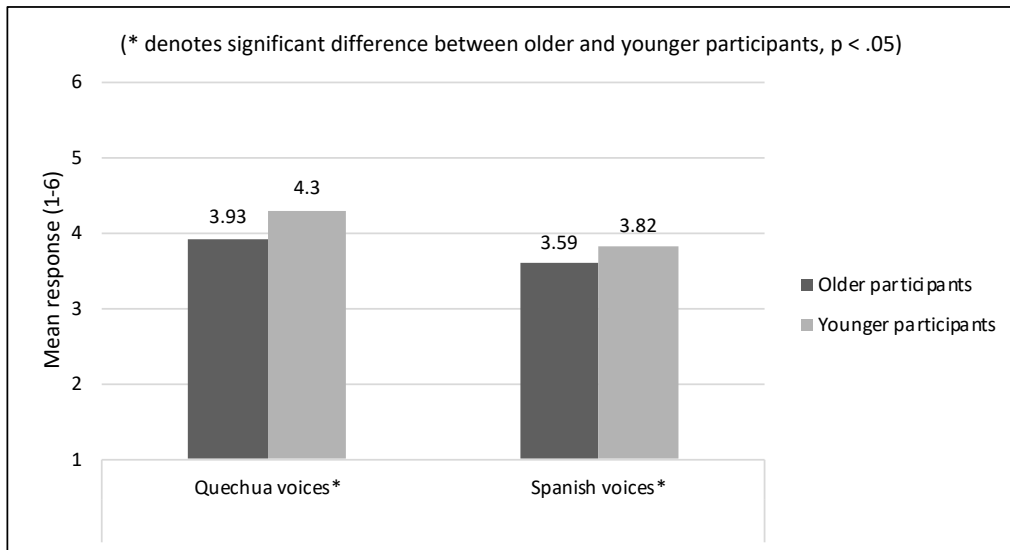


Figure 9: Mean Responses by Older versus Younger Participants, Solidarity

Table 10: Mean Responses by Older versus Younger Participants, Solidarity

<i>Solidarity</i>	Older	Younger	p-val.	t-stat.	D.F.
Quechua voices	3.93	4.3	3.92e-6	-4.64	1148
Spanish voices	3.59	3.82	3.92e-6	-4.64	1148

Turning now to participant gender, consider Figure 10, which shows the mean responses to the Status category by participant gender. It is clear that the male participants rated Quechua voices as significantly higher Status than the female participants did. Figure 11 also shows that the female participants rated Spanish voices as higher on Status than the male participants did (see also Table 11).

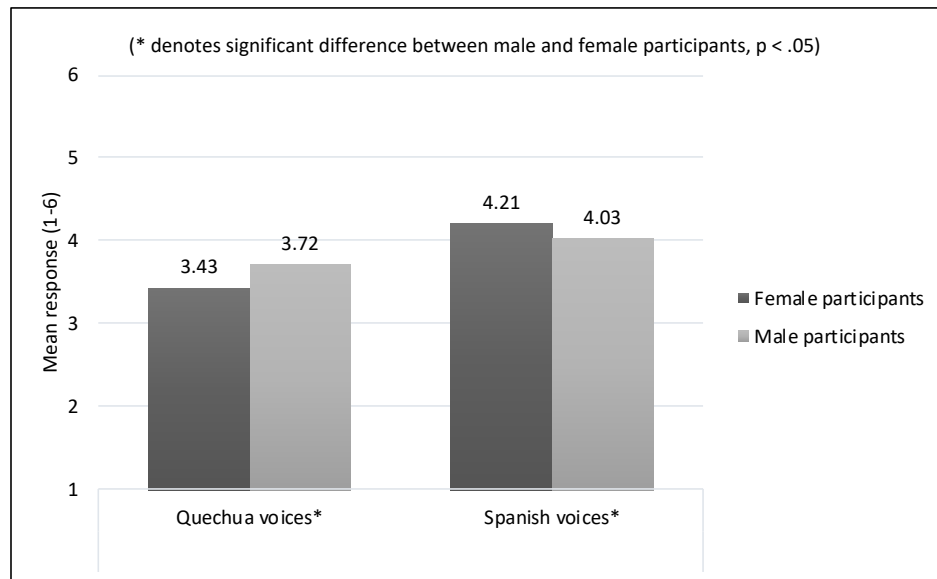


Figure 10: Mean Responses by Female versus Male Participants, Status

Table 11: Mean Responses by Female versus Male Participants, Status

Status	Male	Female	p-val.	t-stat.	D.F.
Quechua voices	3.72	3.43	.0005	3.52	1137.8
Spanish voices	4.03	4.21	.01	-2.50	1139.6

For Solidarity, on the other hand, no significant differences between the male and female participants were observed. Figure 11 shows that this was the case within Quechua voices and within Spanish voices alike (see also Table 12).

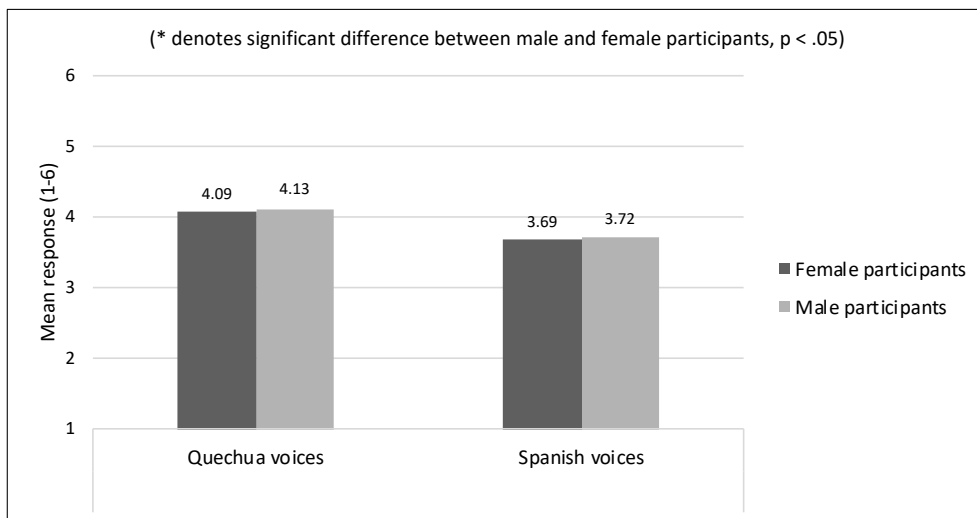


Figure 11: Mean Responses by Female versus Male Participants, Solidarity

Table 12: Mean Responses by Female versus Male Participants, Solidarity

Solidarity	Male	Female	p-val.	t-stat.	D.F.
Quechua voices	4.13	4.09	.59	.55	1122.9
Spanish voices	3.72	3.69	.69	.40	1136.6

4.3 Summary of Results

Despite findings that mean Responses to Spanish voices and Quechua voices did not significantly differ when all 18 evaluative questions were pooled, robust patterns did indeed emerge when question categories were separated. Participants, regardless of their age or gender, rated Quechua voices higher on Solidarity but lower on the Status than Spanish voices. Unexpected was the finding that participants did not significantly differ in their ratings of Spanish voices and Quechua voices for the Negative Bias category, which was determined to not behave like a single, cohesive category as intended.

Though variations in participant age and gender yielded no significant differences in average attitude ratings between voice language, comparisons of attitude ratings within voice language did in fact show minor differences: men rated Quechua voices as higher Status than female participants did, but female participants rated Spanish voices as higher Status than men did. It was also revealed that younger participants gave significantly higher ratings than older participants, regardless of the voice language or category used. These trends will be discussed in further detail in Chapter 6.

Chapter 5

POST HOC ANALYSES

5.1 Motivation for the Post Hoc Analyses

The post-hoc analyses presented here are a factor analysis of all survey questions and the calculation of additional reliability coefficients. All survey questions were developed on the basis of a systematic review of prior research (see 3.4.2). However, given that this dissertation is the first modern Matched Guise study of attitudes towards Quechua and Spanish speech in Peru, I determined that a factor analysis and calculating reliability coefficients might provide insights into why the Negative Bias category did not yield statistically significant results, and whether there might be alternate way of categorizing the survey questions.

With respect to the factor analysis specifically— the factor analysis is not intended to, nor is it capable of, replacing the analysis that is conducted with the Matched Guise Technique. Likewise, it is not designed to test any differences in the social perceptions of Quechua and Spanish speech. Instead, factor analysis is simply one way to combine survey questions into statistically informed concepts.

In fact, several of studies described in 2.1.2 and 2.1.3, including Gentry El-Dash and Busnardo (2001), Luhman (1990), Doss and Gross (1994), and Cavallaro and Bee Chin, (2009), employ a complementary use of the Matched Guise technique alongside factor analysis: Researchers in these studies begin with responses to uncategorized items believed to be assess particular concepts of interest (such as Solidarity or Status, in many cases). Then, the items that load into similar factors are

placed within the same category. The category labels are applied after the fact, with subsequent analyses conducted using these newly developed categories. The factor analysis conducted here is used simply to confirm the originally posited concepts of Status, Solidarity, and Negative Bias used in the present Matched Guise study.

5.2 Organization of the Chapter

I first compute reliability coefficients for Status, Solidarity, and the Negative Bias categories, which provide one possible explanation as to why the Negative Bias category did not behave as intended (5.3). Survey reliability coefficients are commonly used in the social sciences. (Tavakol & Dennick, 2011; Taber, 2018). Then, I describe the procedure conducting a factor analysis, which yields an alternate way of grouping all 18 evaluative questions (5.4). I then present results from between-language comparisons of means and within comparisons of means, using the three newly identified categories (5.5), followed by a brief discussion and summary of this post hoc analysis (5.6).

5.3 Internal Reliability of the Original Categories

R's base package and RStudio were used to calculate Cronbach's alpha values for original Status, Solidarity, and the Negative Bias categories (R Core Team, 2022; RStudio Team, 2022). A raw Cronbach's alpha value of .7 is an agreed-upon benchmark of internal reliability in social science survey research, where Cronbach's alpha values can range from 0 to 1 (Tavakol & Dennick, 2011; Taber, 2018; Nunnally, 1978; Gliem & Gliem, 2003). Raw Cronbach's alpha values were .82 for the Status category and .86 for the Solidarity category. As observed in Chapter 4, the Status category showed consistent patterns in between-language comparisons, as did the

Solidarity category (see 4.1.3 and 4.1.4). It is therefore unsurprising that Cronbach's alpha values suggest that indeed, these two categories are each internally reliable. On the other hand, the Negative Bias category was found to be less internally reliable (raw Cronbach's alpha = .61), and as was observed, ultimately returned unclear results in between-language comparisons (see 4.1.2). Conducting a factor analysis might reveal if the questions in the Negative Bias category would more appropriately be grouped with another category or on an entirely new category altogether.

5.4 Methods of Factor Analysis

The process for computing a factor analysis was as follows. A Scree plot of all 18 questions was created to identify the number of available factors (see Appendix C). The plot revealed a three-factor solution, whereby the number of eigenvalues greater than 1 indicates the number of factors (Kline, 2014; Brown, 2009b). A correlation matrix of all 18 questions was also calculated, revealing many coefficients above .32 (see Appendix C). Following rules of thumb from Tabachnick and Fidell (2007) and Brown (2009c), an oblique rotation (Promax) was selected, extracting three factors explaining 68 percent of the total variance. This analysis was computed using a combination of the base package and Psych packages in R (R Core Team, 2022; RStudio Team, 2022; Revelle, 2022). For comparison, the original groupings developed in Chapter 3 are reproduced in Table 13. Table 14, on the other hand, shows the three new groupings identified through factor analysis (See also abbreviated question identifiers and Spanish versions of questions, Table 2, section 3.4.2).

Table 13: Questions in Original Categories

		<i>Negative Bias</i>	<i>Solidarity</i>	<i>Status</i>
	<i>Cronbach's alpha</i>	.61	.86	.82
	<i>Identifier</i>			
Would this person keep a lost wallet they found?	NB1	✓		
Would this person notify the cashier if they were given too much change back?	NB2	✓		
Would this person apologize for their mistakes?	NB3	✓		
How likely is this person to speak kindly about others?	NB4	✓		
Would this person keep appointments?	NB5	✓		
Would this person be warmly welcomed if browsing at an upscale shop?	NB6	✓		
Would this person give reliable advice on personal concerns?	SO1		✓	
How likely is this person to return the favor if you help them?	SO2		✓	
Would this person be trusted with important secrets?	SO3		✓	
How likely are you to want this person at your relative's birthday party?	SO4		✓	
Would this person make a good neighbor?	SO5		✓	
How likely are you to trust this person in an emergency?	SO6		✓	
How likely is this person to have completed a high level of education?	ST1			✓
How likely is this person to shop mostly in expensive stores?	ST2			✓
How likely is this person to give generous gifts?	ST3			✓
Would this person send their children to university?	ST4			✓
Would this person come from a family with a comfortable income?	ST5			✓
Would this person hire cleaners?	ST6			✓

Table 14: Questions in Alternate Factor Analysis Categories

		<i>Factor 1 Status_{FA}</i>	<i>Factor 2 Community Solidarity</i>	<i>Factor 3 Familiar Solidarity</i>
	<i>Eigenvalue</i>	6.09	2.99	1.11
	<i>Proportion variance</i>	.18	.18	.13
	<i>Cronbach's alpha</i>	.86	.79	.87
	<i>Identifier</i>	<i>Factor Loadings</i>		
Would this person keep a lost wallet they found?	NB1			
Would this person notify the cashier if they were given too much change back?	NB2			
Would this person apologize for their mistakes?	NB3		.66	
How likely is this person to speak kindly about others?	NB4		.59	
Would this person keep appointments?	NB5		.58	
Would this person be warmly welcomed if browsing at an upscale shop?	NB6	.77		
Would this person give reliable advice on personal concerns?	SO1		.63	
How likely is this person to return the favor if you help them?	SO2			
Would this person be trusted with important secrets?	SO3			.58
How likely are you to want this person at your relative's birthday party?	SO4			.9
Would this person make a good neighbor?	SO5		.62	
How likely are you to trust this person in an emergency?	SO6			.76
How likely is this person to have completed a high level of education?	ST1	.65		
How likely is this person to shop mostly in expensive stores?	ST2	.77		
How likely is this person to give generous gifts?	ST3			
Would this person send their children to university?	ST4			
Would this person come from a family with a comfortable income?	ST5	.79		
Would this person hire cleaners?	ST6	.75		

I label the questions loaded most strongly into the first factor as $Status_{FA}$, defining this category as focusing on an individual's perceived socioeconomic status⁵. Loaded into this category were four items from the original Status category (ST1, ST2, ST5, ST6), plus one from the original Negative Bias category (NB6). ST3 and ST4 were present in the original Status category but were not loaded onto $Status_{FA}$.

The original Solidarity category was initially developed as an all-encompassing category of solidarity. The presence of two new solidarity categories (as opposed to one, as originally proposed) may suggest that solidarity is perhaps more nuanced than thought. Borrowing from a sociological approach of understanding interaction (e.g., Little et al., 2016), I differentiate the second and third factors by the level of social interaction that they involve: Community Solidarity (solidarity among groups, communities, or institutions) and Familiar Solidarity (solidarity among small scale, intimate interactions between individuals). Community Solidarity items all share the themes of assessing one's respect for an entire community and the people in it, while Familiar Solidarity items assess the extent to which someone would be valued as a part of one's intimate social circle; however, future work is needed to expand upon the validity of this concept, because the Familiar Solidarity category contains only three questions. The analyses regarding Community Solidarity, in particular, can only be taken as exploratory, and they certainly warrant future research.

Questions NB3, NB4, and NB5, which were originally developed as part of the Negative Bias category, were loaded into the Familiar Solidarity category (see Table 11). NB6, also originally part of the Negative Bias category, was loaded into the

⁵ $Status_{FA}$ to distinguish this grouping of socioeconomic status questions from the original *Status* grouping. *FA* for *factor analysis*.

Status_{FA} category. It was previously noted in 4.1.4 that the Negative Bias category did not yield statistically significant differences in comparisons between Spanish and Quechua. A perceived socioeconomic status, a perceived solidarity, and a cultural negative bias were initially treated as three core concepts. However, it could be the case that the questions originally intended to populate the Negative Bias category simply belong elsewhere, in either the Solidarity or Status category.

As will become clear in next sections, trends from the original Solidarity and Status categories between voice language encountered in Chapter 4 are generally replicated when means are compared from the post-hoc Status_{FA}, Community Solidarity, and Familiar Solidarity categories. Results Using Alternate Factor Analysis Categories

5.4.1 Comparisons Between Voice Languages

5.4.1.1 Status_{FA}

Comparisons between voice language using the Status_{FA} category were such that the Spanish voices were consistently rated higher than the Quechua voices.

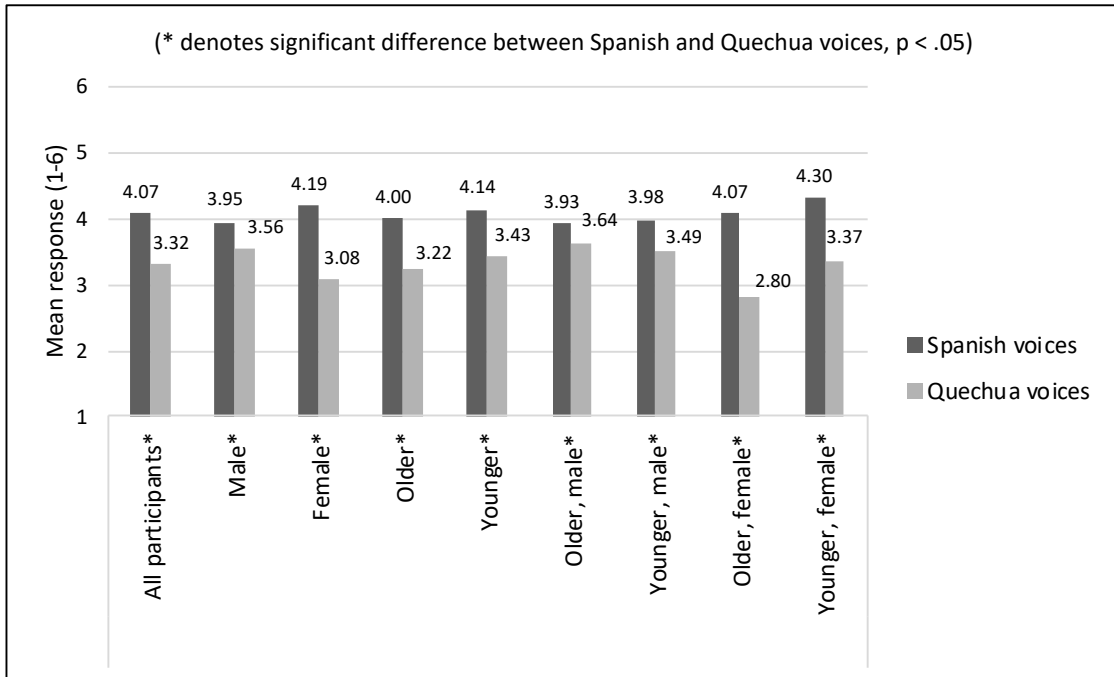


Figure 12: Mean Responses to Spanish versus Quechua Voices, $Status_{FA}$

As seen in Figure 12, this was the case for $Status_{FA}$, regardless of participant age or participant gender. The pattern that the Spanish voices were consistently rated higher than the Quechua voices was identical to findings from the original Status category, in which the Spanish voices were rated as significantly higher on Status than the Quechua voices, also regardless of participant age or gender. The original Status category and the $Status_{FA}$ category borne from factor analysis seem to category the same construct, given that both categories seem to indicate the same robust patterns in comparisons between-language (Spanish higher rated than Quechua) (see also Table 15 for corresponding statistical information).

Table 15: Mean Responses to Spanish versus Quechua Voices, Status_{FA}

<i>Status_{FA}</i>	Quechua voices	Spanish voices	p-val.	t-stat.	D.F.
All participants	3.32	4.07	<2.2e-16	-12.79	1862.7
Male	3.56	3.95	<5.65e-7	-5.04	934.72
Female	3.08	4.19	2.2e-16	-12.858	932.35
Older	3.22	4	<2.2e-16	-10.01	942.86
Younger	3.43	4.14	6.20e-16	-8.24	918.51
Older, male	3.64	3.93	.01	-2.80	464.52
Younger, male	3.49	3.98	2.50e-5	-4.26	468.13
Older, female	2.8	4.07	<2.2e-16	-11.54	477.89
Younger, female	3.37	4.3	1.57 e-12	-7.28	445.11

5.4.1.2 Familiar and Community Solidarity

For most participant age and gender groups, the Quechua voices were rated higher than Spanish voices on the Familiar and Community Solidarity categories (see Figures 13 and 14, respectively). This trend is generally in-line with the finding that Quechua voices were rated higher than Spanish voices on the original Solidarity category.

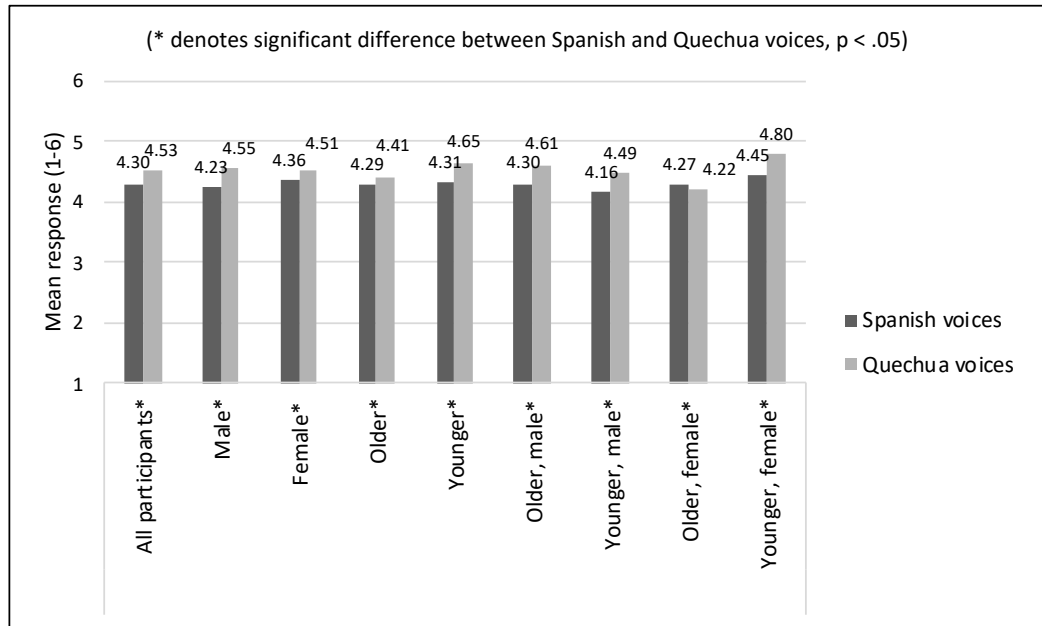


Figure 13: Mean Responses to Spanish versus Quechua Voices, Familiar Solidarity

The participant groups that were exceptions to the pattern that the Quechua voices were rated higher than Spanish voices were the female and the older participants, whose differences in ratings of the Spanish versus the Quechua voices were insignificant for Familiar Solidarity (see Figure 13). The older female participants seemed to rate the Spanish voices as higher than the Quechua voices on Familiar Solidarity, but this difference was not significant (see also Table 16 for the accompanying p-values).

Table 16: Mean Responses to Spanish versus Quechua Voices, Familiar Solidarity

<i>Familiar Solidarity</i>	Quechua voices	Spanish voices	p-val.	t-stat.	D.F.
All participants	4.53	4.3	4.27e-6	4.61	1917.9
Male	4.55	4.23	2.484 e-6	4.74	950.66
Female	4.51	4.36	.05	1.94	950.8
Older	4.41	4.29	.06	1.92	937.38
Younger	4.65	4.31	8.2e-6	4.48	945.36
Older, male	4.61	4.30	.0007	3.43	477.5
Younger, male	4.49	4.16	.0001	3.29	469.58
Older, female	4.22	4.27	.58	-.56	443.91
Younger, female	4.80	4.45	.002	3.11	472.68

Turning to Community Solidarity, Figure 14 shows that the Quechua voices were also rated higher than the Spanish voices on average, regardless of the participants' age and participants' gender.

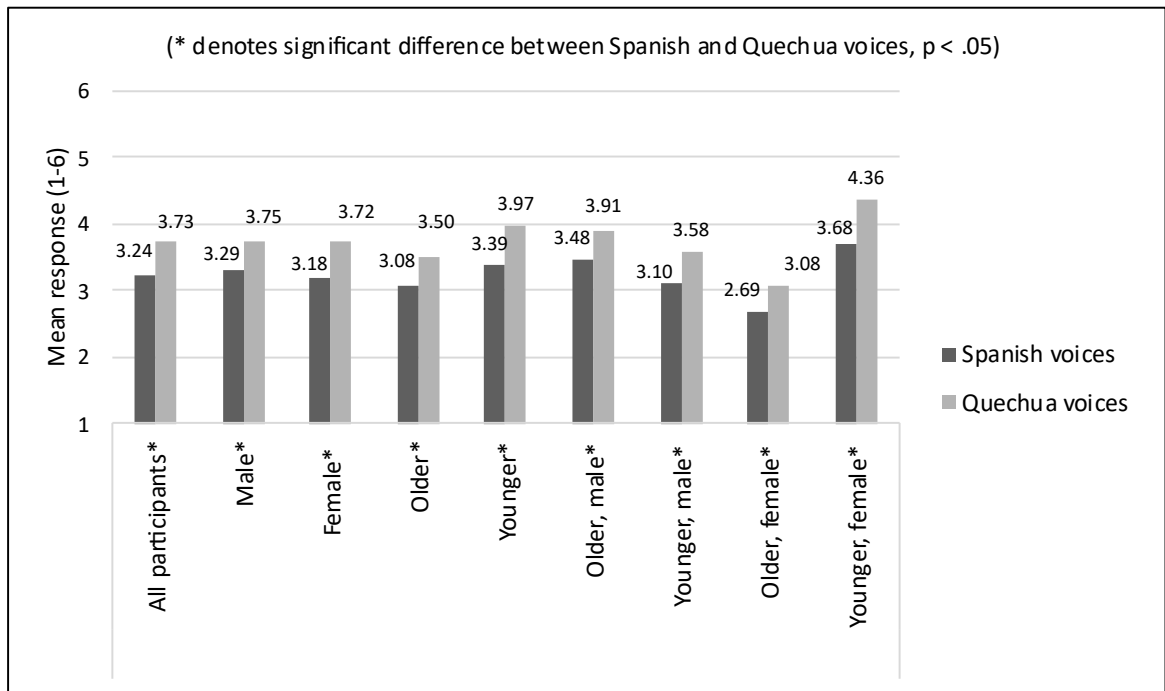


Figure 14: Mean Responses to Spanish versus Quechua Voices, Community Solidarity

Table 17 provides p-values, degrees of freedom, and t-statistics supplementary to Figure 15.

Table 17: Mean Responses to Spanish versus Quechua Voices, Community Solidarity

<i>Community Solidarity</i>	Quechua voices	Spanish voices	p-val.	t-stat.	D.F.
All participants	3.73	3.24	7.53e-9	5.82	1149.8
Male	3.75	3.29	5.17 e-5	4.08	573.93
Female	3.72	3.18	3.57e-5	4.17	573.89
Older	3.5	3.08	.0004	3.54	573.59
Younger	3.97	3.39	2.69e-6	4.74	571.55
Older, male	3.91	3.48	.006	2.78	286
Younger, male	3.58	3.10	.0003	3.03	285.88
Older, female	3.08	2.69	.02	2.45	285.43
Younger, female	3.68	4.36	.0002	3.82	280.65

5.4.2 Comparisons Within Voice Language

5.4.2.1 By Participant Age

5.4.2.1.1 Status_{FA}

Turning now to within-language analyses of participant age, consider Figure 15. At first glance, Figure 15 does seem to suggest that the younger participants gave significantly higher ratings than the older participants on the Status_{FA} category for both the Spanish voices and for the Quechua voices alike, the difference in mean ratings by the older and younger participants was only significant for Quechua voices (see also Table 18 for accompanying statistical information).

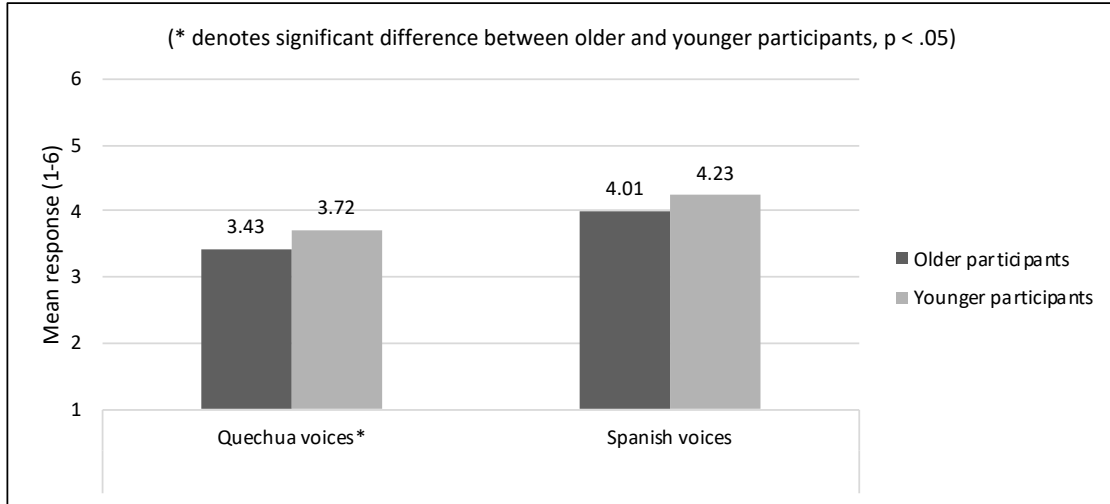


Figure 15: Mean Responses by Older versus Younger participants, $Status_{FA}$

This finding is partially in-line with the original Status category, for which the younger participants' ratings were higher than the older participants' ratings for both the Spanish voices and the Quechua voices.

Table 18: Mean Responses by Older versus Younger Participants, $Status_{FA}$

$Status_{FA}$	Older	Younger	p-val.	t-stat.	D.F.
Quechua voices	3.22	3.43	.02	-2.3	938.26
Spanish voices	4	4.14	.06	-1.92	954.21

5.4.2.1.2 Familiar and Community Solidarity

As determined in Chapter 4, the younger participants gave higher ratings than the older participants for both the Quechua voices and the Spanish voices for the original Solidarity category. In contrast, Figure 16 shows that this within-language difference by participant age extended to both the Quechua and the Spanish voices for the Community Solidarity category, but not for the Familiar Solidarity category. For

Familiar Solidarity, the younger participants' ratings were only higher than the older participants' within Quechua voices, but not for the Spanish voices (see Figure 16). Table 19 provides accompanying p-values, t-statistics, and degrees of freedom.

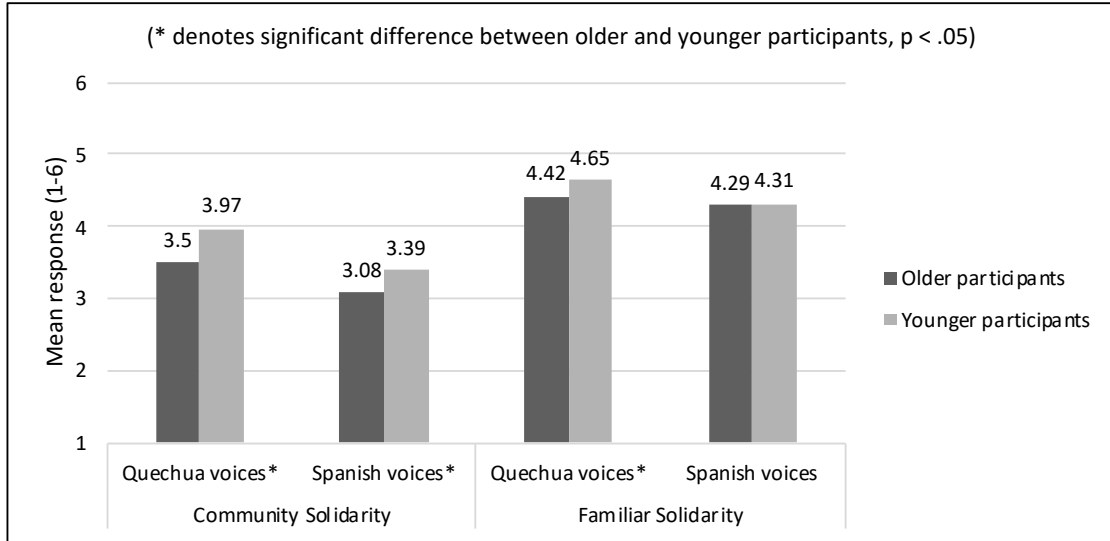


Figure 16: Mean Responses by Older versus Younger Participants, Community & Familiar Solidarity

Table 19: Mean Responses by Older versus Younger Participants, Familiar & Community Solidarity

<i>Community Solidarity</i>	Older	Younger	p-val.	t-stat.	D.F.
Quechua voices	3.5	3.97	6.52e-5	-4.02	574
Spanish voices	3.08	3.39	.01	-2.56	569.21
<i>Familiar Solidarity</i>					
Quechua voices	4.42	4.65	.0001	-3.24	957.64
Spanish voices	4.29	4.31	.75	-.32	905.26

5.4.2.2 By Participant Gender

5.4.2.2.1 Status_{FA}

Turning now to comparisons within voice language by participant gender, there is agreement between the original Status category and the Status_{FA} category developed through factor analysis (see Figure 17; accompanying statistical information provided in Table 19).

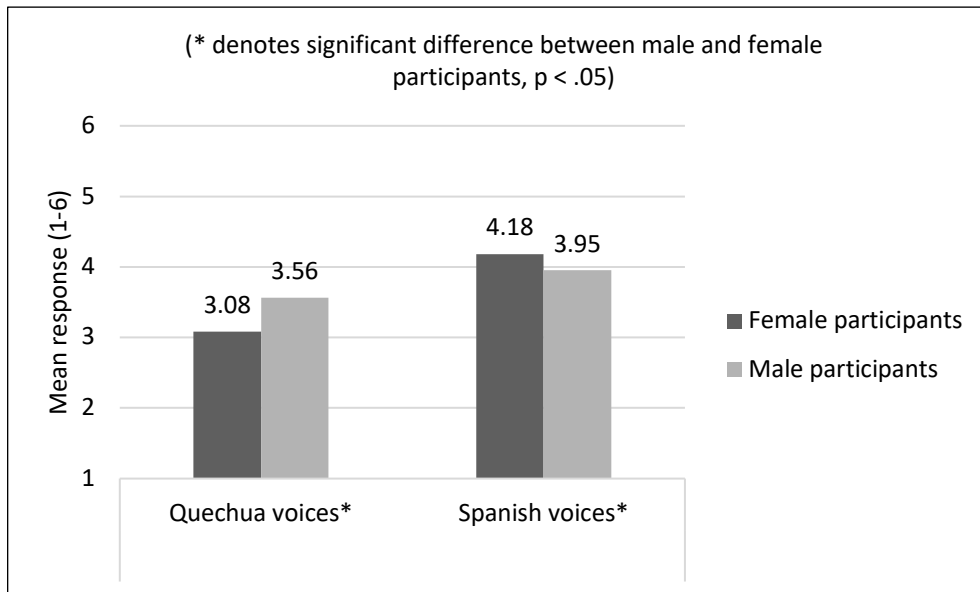


Figure 17: Mean Responses by Female versus Male Participants, $Status_{FA}$

As seen in Figure 18, within-language comparisons by participant gender using the $Status_{FA}$ category mirror the patterns found for the original Status category. The female participants rated the Spanish voices higher than the male participants did on the $Status_{FA}$ category, but the male participants rated the Quechua voices significantly higher than the female participants did on the $Status_{FA}$ category (see also Table 20).

Table 20: Mean Responses by Female versus Male Participants, $Status_{FA}$

$Status_{FA}$	Male	Female	p-val.	t-stat.	D.F.
Quechua voices	3.56	3.08	5.807e-8	5.47	947.36
Spanish voices	3.95	4.18	.002	-3.10	948.93

5.4.2.2.2 Familiar and Community Solidarity

As observed previously, between-gender differences within voice language were not significant for either Familiar or Community Solidarity. This pattern shown in Figure 19 is similar to the original Solidarity category, which returned no significant differences between male and female participants within voice language for either the Quechua or Spanish voices.

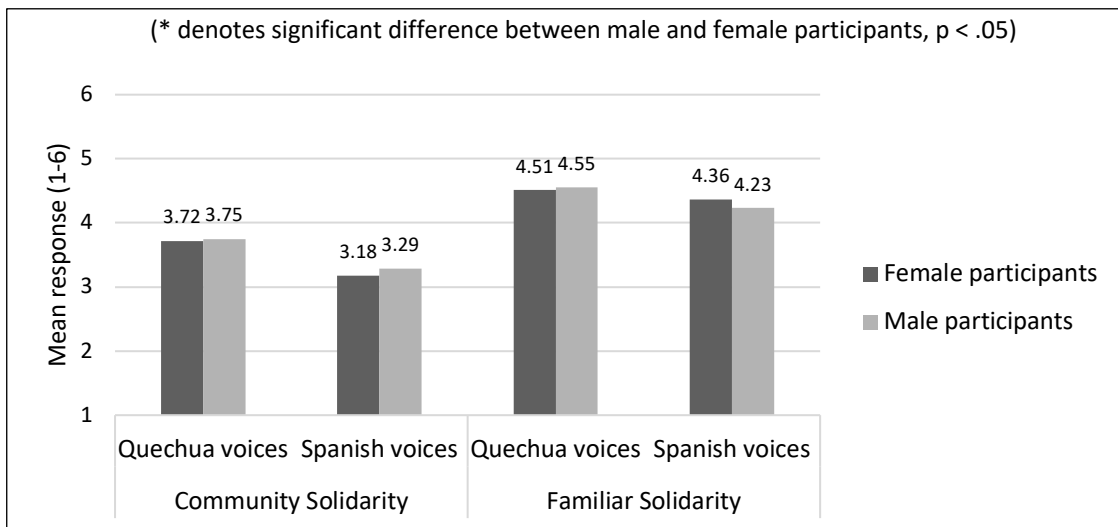


Figure 18: Mean Responses by Female versus Male Participants, Community & Familiar Solidarity

Provided in Table 21 are p-values, t-statistics, and degrees of freedom for the comparisons provided in Figure 17.

Table 21: Mean Responses by Female versus Male Participants, Familiar & Community Solidarity

<i>Community Solidarity</i>	Male	Female	p-val.	t-stat.	D.F.
Quechua voices	3.75	3.73	.84	.20	562.32
Spanish voices	3.29	3.18	.38	.89	561.78
<i>Familiar Solidarity</i>					
Quechua voices	4.55	4.51	.54	.61	924.68
Spanish voices	4.23	4.36	.07	-1.84	957.73

5.5 Summary

The preceding chapter has detailed findings from a post-hoc analysis of the 18 evaluative questions used in the current Matched Guise study, both from the perspective of internal reliability coefficients and with a factor analysis.

In fact, not only do the categories developed using the factor analysis generally coincide with the original categories, the results using the categories developed through factor analysis show the same trends as the original categories. Thus, the current post hoc analysis supports for the original methodology and attests to the coherence of the existing Matched Guise literature from which all survey questions and the original categories were developed (see 3.4.2).

Most, participant groups rated Quechua voices more highly than Spanish voices for the two new categories of perceived solidarity, Community Solidarity and Familiar Solidarity. Even more robust were findings employing the alternate status category, $Status_{FA}$: all demographic groups of participants rated Spanish voices as having higher status than Quechua voices. However, future work is clearly needed to flesh out the validity of these new categories, especially given that the Community Solidarity category contains only three questions.

Within-language analyses using the alternate categories for the most part coincided with the within-language trends of the original categories, as well. Differences based on participant gender were only true of Status_{FA}, but not Community or Familiar Solidarity, as was the case for the original Status and Solidarity categories. Male participants rated Quechua voices as higher on Status_{FA} than female participants. On the other hand, female participants, evaluated Spanish voices as significantly higher Status_{FA} than male participants. With respect to Community and Familiar Solidarity, male and female participants did not significantly differ in their ratings of Quechua voices, and nor did they differ in their average ratings of Spanish voices.

Regarding participant age, younger participants gave significantly higher mean ratings than older participants in some cases, but not all, which is a slight departure from the earlier finding that younger participants gave higher ratings than older participants regardless of voice language or category. The next chapter presents a general discussion of findings, beginning first with an overview of the original hypotheses presented in 3.3.

Chapter 6

GENERAL DISCUSSION

The results of the current Matched Guise study showed that mean ratings of the Spanish voices compared to the Quechua voices did not significantly differ when all the questions were pooled, but that differences did indeed emerge with consideration of separate categories. The Quechua voices were consistently rated as higher as on Solidarity but lower on Status than the Spanish voices. These between-language patterns were robust, regardless of the participants' age and gender. Minor differences by participant age and gender only emerged in subsequent within-language analyses. The male participants generally rated the Quechua voices higher on Status than the female participants did, and moreover, the female participants rated Spanish voices higher on Status than the male participants did. The younger individuals also tended to provide more positive evaluations than the older individuals, but this was generally the case regardless of the category assessed or the voice language they heard. In the current chapter, these findings and their implications are discussed in more detail.

6.1 Language Attitudes Hypotheses

In section 3.3, six hypotheses were put forth, having been developed based on prior literature presented in Chapter 2 and motivated in 3.3. Hypothesis 1 predicted that the Spanish voices would receive higher ratings than the Quechua voices, with all questions pooled. In fact, the responses to the Quechua voices did not significantly differ from the Spanish voices when the responses from the 18 evaluative questions

were pooled. Thus Hypothesis 1 was rejected. It could be the case that this non-significant result of all questions pooled is due to the inverse nature of the component categories, specifically with respect to Hypothesis 2 and 3. Hypothesis 2, in fact, was confirmed: as predicted, the Spanish voices did receive higher ratings than the Quechua voices on the Status category. Likewise, Hypothesis 3, which predicted that the participants would rate the Quechua voices as higher on Solidarity than the Spanish voices, was also confirmed. The combination of the two categories that yielded inverse ratings (Solidarity and Status) likely brought the pooled average rating to the middle, showing no significant differences, and thus disconfirming Hypothesis 1. The initial assumption that an assessment of all questions pooled might provide additional nuance in language attitudes did not appear to be the case.

Hypothesis 4, which predicted that the Quechua voices would receive a higher rating than Spanish speakers on the Negative Bias category, was rejected. There was no significant difference between the mean rating of the Quechua voices and the mean rating of Spanish voices along the Negative Bias category. The same explanation as to why Hypothesis 1 was disconfirmed (a mean measurement brought to the middle by components on opposite ends) may be relevant regarding Hypothesis 4, as well. The factor analysis in chapter 5 grouped most of the Negative Bias questions into alternate categories that seemed to conceptually align with Solidarity and Status (see Table 14, 5.4). If, in fact, the questions in the Negative Bias questions are better categorized as Solidarity or Status, then individual questions within the Negative Bias category themselves may yield inverse ratings, thus bringing any assessment of any the Negative Bias category, on the whole, to the middle.

Unlike hypotheses 1 through 4, Hypothesis 5 and Hypothesis 6 did not make directional predictions. Instead, they proposed the null hypotheses. Specifically, Hypothesis 5 stated that the older participants would not significantly differ from the younger participants in their ratings of Quechua speakers compared to Spanish speakers. The results do align with the null hypothesis in this situation. The between-language trends comparing the Spanish voices with the Quechua voices were robust across the two different participant age groups. Similarly, Hypothesis 6 stated that the male participants would not significantly differ from the female participants in their ratings of Quechua speakers compared to Spanish speakers. Likewise, the male participants and the female participants did not differ in their relative comparisons of the Spanish voices compared to the Quechua voices. These outcomes are summarized in Table 22 below.

Table 22: Summary of Findings

Hypothesis 1	The Spanish speakers will receive higher ratings than the Quechua speakers, for all questions combined.	X
Hypothesis 2	The Spanish speakers will receive higher ratings than the Quechua speakers on the Status category	✓
Hypothesis 3	The Quechua speakers will receive higher ratings than the Spanish speakers on the Solidarity category	✓
Hypothesis 4	The Quechua speakers will receive a higher rating than the Spanish speakers on the Negative Bias category	X
Hypothesis 5	The older participants will not significantly differ from the younger participants in their ratings of Quechua speakers compared to Spanish speakers.	✓
Hypothesis 6	The male participants will not significantly differ from the female participants in their ratings of Quechua speakers compared to Spanish speakers	✓

6.2 Implications for Status and Solidarity

6.2.1 Patterns of Majoritized and Minoritized Languages

The current study adds credence to the body of literature showing that inverse patterns of Solidarity and Status are typical when comparing majoritized with minoritized language varieties (see 2.1.2 and 2.1.3). In this case, the Quechua voices were generally shown to be rated as higher on Solidarity but lower on Status than the Spanish voices, on average. Indeed, these patterns validate a prediction that the relationship between Quechua and Spanish speech in Peru falls into the minoritized–majoritized dichotomy presented in the literature: Quechua patterns like other minoritized varieties, and Spanish patterns like other majoritized varieties.

The finding that the Spanish voices tended to receive higher Status ratings than the Quechua voices, on average, is not surprising given the observation by researchers that Spanish occupies a position as the dominant, high-status language in Peru (see 2.2.1 and 2.2.2). This finding also suggests that the participants, in fact—Quechua-Spanish bilinguals themselves, may be downgrading Quechua compared to Spanish with respect to Status. Another possibility is that Quechua-Spanish bilinguals are simply sensitive to the realities of socioeconomic status. The trend that the Quechua

voices received higher Solidarity ratings than the Spanish voices indicates that participants identify more strongly with Quechua-related social groups than they do Spanish-speaking groups, given that individuals tend to attribute more solidarity to members of their own linguistic community (see 2.1.3).

It is also important to note that the literature of categorizing languages or varieties as majoritized or minoritized may not fully address the complexity of the Quechua context. Regional varieties of Quechua abound, and Mannheim (1991) suggests that some Quechua varieties are higher prestige than others. The current study has compared social perceptions of speakers of one particular Quechua variety with Spanish. One important point of consideration is that Cusco Quechua, the variety used here, is often considered to be a prestige variant relative to other Quechua varieties. Cusco Quechua is generally the most codified, and it is the variety most often taught as a foreign language (Hornberger, 1999; Hornberger & Coronel-Molina, 2004; Marr, 1998, 2000). In fact, discourse from Peru's *Academia* (a representative body of Quechua language in the Peruvian government) tends to focus on Cusco Quechua as the most “authentic” Quechua variety. This position is held despite the fact that the *Academia* generally lacks a real claim to authority, and as described in 2.2.2, its role among linguists and educators as a serious scholarly institution is questionable (Itier, 1992; Marr 1998, 2002; Niño-Murcia 1997; Cerrón-Palomino, 1997).

Future language attitudes studies with respect to the majoritized—minoritized dichotomy may also benefit from taking into consideration the point that language attitudes can be relative and even variable based on context (Campbell-Kiebler, 2010). In the current situation, speakers of Cusco Quechua may be viewed as higher

solidarity and lower status compared to Spanish, while simultaneously be evaluated differently compared to speakers of another Quechua variety. Future Matched Guise studies might examine whether the attitudes determined here are consistent among speakers of other Quechua variants (e.g., of Ecuador, Bolivia, other Peruvian varieties) with respect to Spanish.

Additionally, Snell (2018) suggests that minoritized varieties that lack status within a dominant social context may be leveraged to assert status within different conversational contexts. In order to assess the role that different conversational contexts may have on language attitudes, researchers such as Gergen and Gergen (2008) and Liebscher and Dailey-O'Cain (2009) have used discourse analyses and other qualitative interview-based methods of investigating language attitudes. One future line of inquiry might explore variation among attitudes towards speakers of different Quechua varieties using similar qualitative interactive approaches.

6.2.2 Sociological Levels of Analysis and Future Considerations Post-Hoc Analysis

The current study also validates the concepts of solidarity and status in the Cusco Quechua community. The pattern that the Quechua voices were evaluated as generally higher on solidarity but lower on status than the Spanish voices was even determined to be robust, regardless of whether the solidarity and status categories were developed on the basis of a systematic review of previous Matched Guise research and expert guidance (see 3.4.2), or through a post-hoc factor analysis (5.4).

The alternate groupings developed in the post-hoc factor analysis in Chapter 5 suggest that solidarity, as a general concept, may perhaps be more complex than is typically considered. It was shown in 2.1.3 that status and solidarity are well-

established concepts in the language attitudes literature, but factor analysis identified the presence of three distinct categories, two of which I labelled Community Solidarity and Familiar Solidarity (see 5.2).

The process of assessing a wide breadth of Matched Guise literature to develop survey questions may support the emergence of these two different types of solidarity. However, the underlying mechanisms for multiple layers of solidarity, or even the validity of such a distinction, all warrant further research. One possibility could be that these two types of solidarity emerge from social considerations of the Peruvian Quechua context. There has been extensive anthropological work assessing the strength of community values in primarily rural, indigenous areas of the Andes (Bugallo & Tomasi, 2012; Allen, 2002; 2019). One line of investigation has uncovered systems of reciprocity and cooperative labor (*ayni* and *mink'a*)⁶ in these communities. Common property institutions (e.g., communally owned gardens, herds, buildings) are also well-attested (Lyle & Smith, 2014; Kuznar, 2001; Allen, 2002; 2019). One set of ethnographic interviews from Delgado (2018) illustrates that what it means to “live well” for textile vendors in Chinchero (Peru) is strongly rooted in community and reciprocity. Given the prevalence of these and similar community-focused values, it is reasonable to propose that an emphasis on community might emerge with respect to Quechua language attitudes.

Future research may benefit from examining multiple sociological levels of analysis in the context of language attitudes, as described in 5.4. It may be fruitful to further examine cultural contexts and the demographic categories in which social

⁶ See also Gose (1991), Wutich et al. (2017), and Paerregaard (2017)

concepts like solidarity and status are evaluated. To this end, future studies may benefit from using a factor analysis on a very large number of questions first to test out the relevant categories, then analyze the relevant results on a different set of participants. Additional participant properties that could be considered as independent variables could be participants' levels of bilingualism (e.g., Spanish monolingual versus bilingual participants) or perhaps different Spanish varieties.

6.3 Influence of Participant Age and Gender

This dissertation has so far addressed whether speakers of Quechua and Spanish voices would differ with respect to attitudes in general, which was found to not be the case (see Hypothesis 1). The second research question, which proved ultimately to be more insightful, was whether ratings of each language will differ with regard to three different types of social considerations: Status, Solidarity, and Negative Bias (Hypotheses 2 through 4). In fact, differences between Quechua and Spanish were only observed for Status and solidarity.

Turning now to the third and final research question, which asked whether participant age and participant gender would be associated with any systematic differences in the relative ratings of Quechua and Spanish speech, we turn to exploration of the variation in attitudinal ratings in depth, both in the between-language and within-language context.

Ultimately, the pattern that Spanish voices received higher Status ratings but lower Solidarity ratings than Quechua voices was consistent, regardless of participant and gender. The only variation was exhibited in secondary within-language analyses. In addition to between-language comparisons of ratings of the Quechua voices compared to the Spanish voices, within-language analyses were conducted to explore

whether attitudinal ratings to a particular voice language (be it Spanish or Quechua) would vary based on participant age or gender. The male participants rated the Quechua voices as significantly higher Status than the female participants did, whereas the female participants rated the Spanish voices as higher on Status than the male participants did.

With respect to Solidarity, no significant differences between male and female participants were observed, within either the Quechua or Spanish voices. The younger participants tended to give higher ratings than the older participants, which was true regardless of whether the voice rated was Spanish or Quechua, or the category assessed was Status or Solidarity. Possible mechanisms underlying variation in attitudes based on participant age and gender is discussed in more detail in the sections that follow.

6.3.1 Role of Participant Age

The pattern that the Quechua voices were rated higher on Solidarity but lower on Status than the Spanish voices was robust among both the younger and the older participants (see 4.2). The expectation that the younger participants might hold different attitudes than the older participants was not the case, for which several explanations are possible. This finding has implications with respect to the Quechua youth activism efforts described earlier (see 2.2.2). One possibility is that the demographics of the young participants sampled here do not match the demographics of the young individuals who would engage in or be impacted by language activism. Additional review of the language attitudes ratings among the set of younger participants was conducted to determine if there was a difference in overall attitudinal ratings between a younger set of the young participants (i.e., the younger bound, 18-

25) and an older set of young participants (i.e., 30+). No differences in attitudinal ratings between these two groups were observed in this impressionistic review. Additional research might benefit from collecting language attitudes data from practitioners of language activism activities themselves, which may provide a baseline for further comparison for language attitudes in other demographic groups.

Moreover, other properties about the relative ages between the voices and the participants used in the current study warrant additional research. The younger participants (mean age 24) were generally closer in age to the voices they evaluated than the older participants (mean age 66). The 4 speakers who produced the 8 voices were fairly close in age (late 30's to early 40's). The few language attitudes studies that have made comparisons based on listener age as an independent variable (see 2.1.4) treat age as general value, but perhaps what could also be meaningful are relative age comparisons between a speaker and a listener. It is well-documented that listeners can identify speaker age accurately (see 2.1.4). However, what remains unclear is whether listeners are sensitive to a speaker's absolute age, or instead if listeners are sensitive to relative age perceptions between themselves and the speaker (or some combination of both). It could be the case that listeners' social perceptions vary with respect to speakers that they judge to be very dramatically different in age compared to them, which could be explored in future work.

One trend identified in the literature is that older speakers tend to be evaluated poorly compared to younger speakers, but in most cases, listeners themselves are quite young (e.g., Ryan & Capadano (1978) and Stewart & Ryan (1982) used undergraduate participants). The underlying mechanisms of these trends remain unclear. It could be the case that young participants rate young-sounding speakers more favorably than

older-sounding speakers, simply by virtue of the fact that younger participants have more in common with younger speakers than older speakers. It is reasonable to expect that participants tend to provide more positive judgements to speakers whom they perceive as having common ground with, a trend which is likewise well-documented for many characteristics, but not yet with regards to age (see 2.1.4). If participants in the current study were sensitive to the ages of the voices, then this rationale might explain why within-language analyses found that younger participants consistently provided higher absolute ratings of Solidarity and Status than older participants did, regardless of the language evaluated (4.2.2). It follows that we might expect older participants to evaluate older-sounding speakers more positively than they would younger-sounding speakers in a similar manner.

Within the se

Future studies may benefit from exploring whether listeners are sensitive to absolute or relative speaker age, or some combination of both, in terms of how these factors impact relative attitudinal evaluations.

6.3.2 Role of Participant Gender

Much like the general patterns of Solidarity and Status observed in between-language comparisons of the Quechua and the Spanish voices did not vary with participant age, these patterns were also robust among the male and the female participants alike. Within-language comparisons, on the other hand, did show that gender differences in Status ratings: the male participants rated the Quechua voices as higher Status than the female participants, who in turn rated the Spanish voices as higher Status than the male participants did.

Using the dichotomy of majoritized and minoritized language pairs discussed in 2.1.3, this within-language finding suggests that the female participants ascribed higher Status to a prototypically majority language than male participants did, but significant within-language differences between the male and the female participants' ratings were only found for Status, not Solidarity. Relevant here are classic works by Trudgill (1972, 1974) and Giles and Powesland (1975), which suggest that men's greater use of minoritized varieties compared to women is a manifestation of "macho" covert prestige not as applicable to women (see 2.1.4). These qualities are inherently solidarity-enhancing, and it therefore follows, that men may be expected to give higher Solidarity ratings than women to Quechua, which was in fact not the case.

Perhaps an alternate explanation for these within-language findings may be explained from work by Bordieu (1998) and Eckert (1991), as described in 2.1.4, who argue that women tend to rely more on to symbolic and social capital to maintain social status than men (who rely more on status from occupation or material goods. To exemplify, in the context of Ukrainians' attitudes towards Russian, English, and Ukrainian, Bilaniuk (2003) found that women have a stronger motivation to favor Russian and English (which were found to pattern like other majority languages with respect to Solidarity and Status) compared to Ukrainian (viewed here as relatively minoritized):

If men's status is defined less by symbolic capital and more by what they have and do, they risk less in supporting a language of questionable status. This does not mean that symbolic capital is irrelevant for men, but they are in a better position than women to take risks in supporting a less prestigious language. (p. 74)

The current Quechua and Spanish context could parallel this explanation: women's higher relative Status ratings of Spanish than men's are perhaps a way for

them to build or maintain social capital in a manner not needed by men. Women may have more to lose in terms of social capital than men if they ascribe high Status to a minoritized language, such as Quechua.

Yet another alternate explanation comes from gender-based patterns of acquisition and production observed in Harvey (1994). It was shown that in one southern Peruvian town, 76% of men were either fully bilingual or fluent in Spanish, while 46% of women had limited Spanish skills (which was only true of 10% of men). This asymmetry was explained in terms of differential exposure to Spanish: women were less likely to be educated and less likely to be involved in migrant labor than men, historically. It was noted that women were more reluctant to use Spanish in light of severe social costs that accompany women's eschewing of tradition: women's use of Spanish is ridiculed, since women were viewed as "guardians"⁷ of traditional culture (Harvey, 1994; Burton, 1994). This pattern of women being stewards of indigenous languages and cultures was likewise observed in the context of Nahuatl by Hill (1987) and in the Lakota Sioux by Medicine (1987).

However, this work by Harvey (1994), Hill (1987), and Medicine (1987) were primarily completed within rural, traditional contexts. Despite work by Zavala (2023) speaking to the emergence of Quechua activism in urban areas where Quechua has been historically silenced (e.g., Lima), it is unclear of the extent to which the urban Cusco Quechua and Spanish context assessed here exists as a parallel situation to the earlier work elsewhere in the Americas. Moreover, there is no substantial research speaking to gender-based differences among those leveraging Quechua for culture-

⁷Burton (1994) coins the term "guardian"; see also the term "cultural broker" in Medicine (1987)

focused economic opportunities of the type described by Zavala (2019) in 2.2.2 (although one might certainly assume that women may be less likely to engage in economic activities altogether in a historically patriarchal society like much of the Andes; Allen, 2002).

Ultimately, more work is clearly needed to disentangle these competing notions: on one hand, perhaps women have stronger motivation to support a majoritized language (like Spanish) for social capital, but on the other, women may be expected to be stewards of an indigenous language (like Quechua).

Apart from these within-language findings of participant gender, the current dissertation is also subject to a limitation in the sense that it only balanced voices for gender (see 3.4.1), but it did not manipulate voice gender as an independent variable. With the results of the current study showing that the current Quechua and Spanish voices pattern within the majoritized—minoritized dichotomy with respect to the Solidarity and Status categories, a logical next step would be to investigate whether there are any interactions between voice gender and participant gender.

6.4 Broader Impacts for Quechua and Role as an Outsider Linguist

Though not explicitly focused on Quechua language revitalization or maintenance, findings of the current study may indirectly benefit those working within the Quechua community. Relevant here is an observation from Kovach (2021), who notes that research can generate influence beyond the confines of academic disciplines from which it originates:

Policy and programming grow out of research. While the influence of research methodologies is not always visible in the research-policy-practice cycle, the influence of research methodology on how research

questions are asked, to whom, the findings that are found, and whether knowledge will be shared with communities cannot be understated. Methodology influences research outcomes. Search outcomes create policy. Policy generates programs. Programs guide practice. (p. 11-12)

Language attitudes research may indirectly bear on language revitalization and maintenance efforts. The current study may contribute to an understanding of the conversational situations and social domains in which speakers decide to use Quechua or Spanish (Dołowy-Rybińska & Hornsby, 2021). To this end, future Quechua revitalization and maintenance efforts could capitalize on the current finding that Spanish speakers were consistently rated as higher socioeconomic status than Quechua speakers. Given other research showing that new domains for the use of Quechua speech are already emerging (see 2.2.2), additional social domains of use pertaining to higher socioeconomic status (e.g., in formal business or educational contexts), currently the domain of Spanish in most situations, may be ripe grounds for revitalization efforts. Future research might also seek to clarify the situations that speakers choose to use Spanish or Quechua, or even perhaps the domains of code switching between Spanish and Quechua.

Ultimately, my perspective on the language attitudes presented in this research is limited to that of a community outside. I recognize my role as a non-indigenous academic conducting research in a marginalized language community. Linguists practicing in the Western academic tradition have a history of using extractive methods when engaging in work within indigenous communities. It is hoped, however, that the use of an online survey allowed the participants to feel more comfortable with the experience.

Applicable here, nevertheless, is the work of Surma (2022), who proposes recommendations to aid outsider linguists in practicing appropriate and ethical language work within indigenous communities in Canada. Despite the geographic focus of their recommendations, it seems logical that the suggestions may generalize in many situations where an outside researcher is working within a historically marginalized community. Surma’s suggestions are labelled as either *personal* (introspective) or *practical* (engaging outwardly with others) actions that an outsider linguist may take. These suggestions are reproduced in Table 23.

Table 23: Recommendations for Outsider Linguists, reproduced from Surma (2022), p. 162

<i>Personal</i>	<i>Practical</i>
Know yourself and your capabilities	Focus on local languages and communities
Acknowledge your positionality	Spend time with and within the community
Remain honest with yourself and others	Build and rely upon connections with others
Be willing to learn	Align research with priorities of community initiatives
Be willing to listen and adapt to feedback	Volunteer your skills to assist community language initiatives
Adopt and maintain a people-focused and intersectional perspective of language	Do what is asked of you, even if it is not language-related
	Voice your support for Indigenous languages publicly and positively

The suggestions in Table 23 are framed as ways of incorporating reciprocity into one’s work. The current study did indeed adopt these suggestions, and I cultivated quality, honest relationships throughout the project. In line with Surma’s personal suggestions, it felt crucial to remain humble, acknowledge my positionality as an outsider, ask questions, and take the feedback from My Peruvian colleagues into the full consideration. Although full implementation of the practical recommendations was not possible due to the Covid situation at the time of the study, I did my best to

build connections with the Cusco Quechua community virtually using WhatsApp, Google Meet, and Facebook. I relied upon my pre-existing contacts and built new connections, and I remained as possible about my intentions and my personal background.

During the outreach and initial screening process, I also asked participants if there was any other information they wanted from me, volunteering if there was anything else I could do for them. Many individuals asked for a summary of results once the study was complete. Relevant here is another notable suggestions presented by Surma (though not included in the table above), which was to share the outcomes of research back to its participants. Eventually, this took the form of distributing a brief abstract translated into Spanish to those who wished to receive it. Several Peruvian colleagues who assisted in the development of the survey materials were fluent in English, and relevant presentation materials from this study (e.g., the dissertation defense slides for those who could not make the talk itself; copies of research posters, and the like) were shared with them, as well.

CONCLUSION

The present research has begun to contribute to our understanding of the social perceptions of speakers of both Quechua and Spanish Peruvian culture. The current dissertation has reviewed conflicting literature as to the ideologies surrounding spoken Quechua and Spanish in the Andes. One trend of prior research of language ideologies in the Andes (e.g., by Hornberger & Coronel-Molina, 2004, 2011) has been that Quechua speech is negatively stigmatized in Peru. Meanwhile, there has also been a growing body of research (e.g., Manley, 2008; Zavala, 2019; 2023) suggesting that Quechua is associated with cultural pride, and perhaps may even be emerging as a commodified source of social and economic capital. The present study has begun to fill this gap in the research as to the nature of attitudes towards Quechua speakers and Spanish speakers held by Peruvian listeners who are themselves Quechua-Spanish bilinguals. A main finding was the main differences between the attitudes to speakers of these two languages are, in fact, relative patterns of solidarity and status, which were shown to be robust.

Using the Matched Guise technique, the current study makes several contributions. First, it was shown that the language attitudes of a group of Spanish-Quechua bilinguals did not substantially vary with respect to their age and gender. Given the non-linguistic literature (e.g., Sears, 1981; Beutel & Marini, 1995) showing that social attitudes change with age and vary with respect to gender, the current dissertation examined whether attitudes towards speakers of Quechua and Spanish might also vary according to participant age and gender). The current Matched Guise Study showed that Quechua voices were consistently evaluated higher on a Solidarity

measure and lower on a Status measure than Spanish voices. These between-language attitudinal patterns were robust across all participant demographics. The only differences by participant age and gender emerged in subsequent within-language analyses.

Second, this dissertation contributes to the continued use of the Matched Guise Technique cross-culturally. This study is also notable in that its participants are themselves bilingual in the two languages under investigation. In particular, the current study manipulates only the properties of the listener (participant), while holding properties of the speaker constant.

Third, this research has provided a more complete view of the current state of the relationship between Quechua and Spanish in Peru, having shown that Quechua and Spanish may be situated among other languages along majoritized-minoritized attitudinal framework used in prior studies. The findings here indicate that bilingual participants' attitudes towards Spanish speakers indeed patterns like other majority language varieties compared to Quechua, and that Quechua patterns like other minoritized varieties compared to Spanish.

This dissertation has also raised many open questions, including the relative prestige of different regional Quechua varieties, an examination of possible interactions between speaker and listener demographic categories with respect to attitudes, exploration of the relationship between bilinguals' language and language attitudes. To conclude, the current study has presented many such opportunities for future research, but it has ultimately offered insights into the nature of Quechua-Spanish language attitudes in Peru.

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Appendix A

ADDITIONAL SURVEY INFORMATION

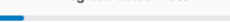
A.1 Filler Questions

<i>¿Qué tan probable es que esta persona sea madrugadora?</i> 'How likely is this person to be a morning person?'
<i>¿Qué tan probable es que esta persona sea trasnochadora?</i> 'How likely is this person to be a night owl?'
<i>¿Qué tan probable es que esta persona sea hija única o hijo único?</i> 'How likely is this person to be an only child?'
<i>¿Qué tan probable es que esta persona sea muy tímida?</i> 'How likely is this person to be very timid?'
<i>¿Cree que esta persona disfrutaría de las películas de terror?</i> 'Would this person enjoy scary movies?'
<i>¿Qué tan probable es que esta persona tenga muchos hermanos?</i> 'How likely is this person to have many siblings?'
<i>¿Qué tan probable es que esta persona prefiera ver películas románticas?</i> 'How likely is this person to prefer romantic movies?'
<i>¿Qué tan probable es que esta persona use ropa a la moda?</i> 'How likely is this person to wear fashionable clothing?'
<i>¿Cree que esta persona se sentiría segura al conocer a otras personas?</i> 'Would this person be confident when meeting others?'
<i>¿Cree que esta persona tendría una carrera como jefe o gerente?</i> 'Would this person have a career as a boss or manager?'
<i>¿Qué tan probable es que esta persona tenga una casa desordenada?</i> 'How likely is this person to have a messy house?'
<i>¿Qué tan probable es que esta persona mantenga organizadas sus cosas?</i> 'How likely is this person to keep their belongings organized?'
<i>¿Cree que esta persona lo/la invitaría a cenar?</i> 'Would this person invite you over for dinner?'
<i>¿Qué tan probable es que esta persona le prepare (a usted) su comida favorita?</i> 'How likely is this person to prepare their favorite meal for you?'
<i>¿Cree que esta persona... - disfrutaría ir al cine con amigos?</i> 'Would this person enjoy going to the movies with friends?'
<i>¿Cree que esta persona... - sería un buen vecino?</i> 'Would this person make a good neighbor?'
<i>¿Cree que esta persona disfrutaría pasar el tiempo contigo?</i> 'Would this person enjoy spending time with you?'
<i>¿Qué tan probable es que esta persona sea viajera?</i> 'How likely is this person to enjoy travelling?'

A.2 Demographic Questions

¿Qué edad tiene?



0%  Progreso actual 13% 100%



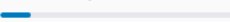
¿Cuál es su sexo?

Masculino

Femenino

Otro (especifique por favor)



0%  Progreso actual 12% 100%

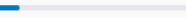


¿Cuál es el nivel de educación más alto que completó?

- Completé la escuela primaria
- Un poco la educación secundaria (pero no la completé)
- Completé la educación secundaria
- Un poco la educación superior universitaria (pero no la completé)
- Completé la educación superior universitaria
- Alguna educación de posgrado



Progreso actual 15%

0%  100%

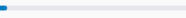


¿Qué idioma habla usted más frecuentemente sus hermanos?

- No tengo hermanos
- Quechua
- Castellano
- Inglés
- Mezcla de castellano y quechua
- Mezcla de castellano e inglés
- Mezcla de quechua e inglés
- Otro
-

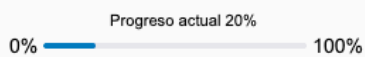


Progreso actual 17%

0%  100%



¿De qué departamento es usted? (Por ejemplo: Cusco, Arequipa...)



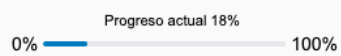
¿Qué idioma utiliza usted más frecuentemente ahora?

Quechua

Castellano

Mezcla de castellano y quechua

Otro



A.3 Demographic Information of Participants

Information for 48 participants

<i>Education background</i>	<i>Number of participants</i>
some graduate education	2
completed secondary education	18
completed university education	5
completed primary education	8
some secondary education (but didn't finish)	5
some university education (but didn't finish)	10

<i>Home departments</i>	<i>Number of participants</i>
Apurímac	8
Arequipa	1
Ayacucho	2
Cusco	36
Puno	1

<i>Language most commonly used currently</i>	<i>Number of participants</i>
Spanish	11
Mix of Spanish and Quechua	29
Quechua	8

<i>Language most commonly used with children</i>	<i>Number of participants</i>
Spanish	10
Mix of Spanish and Quechua	14
Don't have children	11
Quechua	13

<i>Language most commonly used with siblings</i>	<i>Number of participants</i>
Spanish	8
Mix of Spanish and Quechua	18
Don't have siblings	1
Quechua	21

A.4 Demographic Information of Speakers

Background information for 4 speakers, yielding 8 voices

<i>Speaker</i>	<i>Age</i>	<i>Hometown</i>	<i>Languages spoken</i>	<i>Current location</i>
Speaker #1, male	38	Cusco, Peru	Spanish, Quechua	Cusco, Peru
Speaker #2, female	43	Coya, Peru	Spanish, Quechua, English (highly proficient)	Oregon, USA
Speaker #3, male	41	Urubamba, Peru	Spanish, Quechua, beginning to learn English	Cusco, Peru
Speaker #4, female	35	Cusco, Peru	Spanish, Quechua	Cusco, Peru

<i>Speaker</i>	<i>Languages spoken</i>	<i>Highest education level</i>
Speaker #1, male	Spanish, Quechua	Completed university education
Speaker #2, female	Spanish, Quechua, English (highly proficient)	Postgraduate degree
Speaker #3, male	Spanish, Quechua, beginning to learn English	Completed university education
Speaker #4, female	Spanish, Quechua	Completed university education

<i>Speaker</i>	<i>Language most frequently used currently</i>	<i>Language background</i>
Speaker #1, male	Spanish	Grew up speaking mostly Quechua, learned Spanish at school
Speaker #2, female	Spanish, English, Spanish-English codeswitching, Spanish-Quechua codeswitching	Grew up speaking Quechua, learned Spanish in school, learned English before moving to the US for graduate school
Speaker #3, male	Spanish	Grew up speaking Quechua, learned Spanish in school, beginning to teach himself English
Speaker #4, female	Spanish	Grew up speaking mostly Quechua, learned Spanish at school

Appendix B

CONSENT FORMS

B.1 Consent Form

¡Bienvenido/a! Por favor, lea este formulario de consentimiento (que continúa en las páginas siguientes).

Título del Proyecto: Investigación del habla en castellano y quechua.

Investigadora: Mackenzie Marcinko

Propósito: El propósito de esta investigación es aprender cómo los bilingües de quechua y castellano perciben sus propios idiomas.

Procedimiento: Deberá completar una encuesta en línea, a través de una tableta, un teléfono o una computadora. Deberá responder las preguntas sobre sus antecedentes personales y los idiomas que utiliza con más frecuencia. Luego, deberá escuchar las grabaciones de diferentes personas y contestar algunas preguntas sobre ellos.

Duración: El estudio tomará alrededor de 45 minutos a una hora de su tiempo.



Progreso actual 1%
0% ————— 100%



Riesgos: No se esperan riesgos a causa de su participación en este estudio.

Beneficios: Los beneficios serán para la comunidad científica. Usted no se beneficia directamente por participar en esta investigación.

Alternativos: no se aplica.

Participación: Tomar parte de esta investigación es totalmente voluntaria.



Progreso actual 2%
0% ————— 100%



Por favor, escriba las iniciales de su nombre y apellido.



Progreso actual 7%
0% ————— 100%



Por favor, firme abajo. Si usa un teléfono o tableta, puede usar su dedo para firmar. Si usa una computadora, puede hacer clic y arrastrar el cursor para firmar.



A rectangular box for a signature. In the bottom-left corner, there is a small 'x' icon. In the bottom-right corner, there is a blue button labeled 'borrar'.

Por favor, escriba la fecha de hoy (en cualquier formato que desee).



A horizontal rectangular input field for entering the date.



Progreso actual 10%

0% ————— 100%



Compensación por completar: si usted decide participar se le compensará con un valor equivalente a \$10 USD y un certificado personalizado. Solo se le compensará si completa la encuesta.



Progreso actual 4%

0% ————— 100%



B.2 IRB Documents



Institutional Review Board
210H HULLIHEN HALL
NEWARK, DE 19716
PHONE: 302-831-2137
FAX: 302-831-2828

DATE: July 27, 2021

TO: Mackenzie Marcinko
FROM: University of Delaware IRB

STUDY TITLE: [1774985-1] Investigating Spoken Spanish and Quechua Speech
SUBMISSION TYPE: New Project

ACTION: APPROVED
EFFECTIVE DATE: July 27, 2021
NEXT REPORT DUE: July 26, 2022

REVIEW TYPE: Expedited Review
REVIEW CATEGORY: Expedited review category # (7)

Thank you for your New Project submission to the University of Delaware Institutional Review Board (UD IRB). The UD IRB has reviewed and APPROVED the proposed research and submitted documents via Expedited Review in compliance with the pertinent federal regulations.

As the Principal Investigator for this study, you are responsible for, and agree that:

- All research must be conducted in accordance with the protocol and all other study forms as approved in this submission. Any revisions to the approved study procedures or documents must be reviewed and approved by the IRB prior to their implementation. Please use the UD amendment form to request the review of any changes to approved study procedures or documents.
- Informed consent is a process that must allow prospective participants sufficient opportunity to discuss and consider whether to participate. IRB-approved and stamped consent documents must be used when enrolling participants and a written copy shall be given to the person signing the informed consent form.
- Unanticipated problems, serious adverse events involving risk to participants, and all non-compliance issues must be reported to this office in a timely fashion according with the UD requirements for reportable events. All sponsor reporting requirements must also be followed.

The UD IRB REQUIRES the submission of a PROGRESS REPORT DUE ON July 26, 2022. A continuing review/progress report form must be submitted to the UD IRB at least 45 days prior to the due date to allow for the review of that report.

If you have any questions, please contact the UD IRB Office at (302) 831-2137 or via email at hsrb-research@udel.edu. Please include the study title and reference number in all correspondence with this office.

INSTITUTIONAL REVIEW BOARD



CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Title of Study: Investigating Spanish and Quechua Speech

Principal Investigator(s): Mackenzie Marcinko

<p>KEY INFORMATION</p> <p>Important aspects of the study you should know about first:</p> <ul style="list-style-type: none"> • Purpose: The purpose of the study is to learn how Quechua-Spanish bilinguals perceive their own languages. • Procedures: If you choose to participate and are eligible, you will be asked to fill out a web-based survey that can be completed on a tablet, smartphone, or computer. You will be asked questions about your personal background and the languages you use most frequently, then you will be asked to listen to recordings of several speakers and answer some questions about them. • Duration: This will take about 30 minutes in total. • Risks: There are no expected risks associated with this research. • Benefits: The benefits will be to the scientific community. There will be no personal benefits for you from participating in the research. • Alternatives: N/A • Costs and Compensation: If you decide to participate, there will be no additional cost to you. You will be compensated with a \$10 reward of your choice: a virtual Amazon gift card or equivalent \$10 USD sent by your choice of platform (Facebook Pay, Venmo, Paypal, TransferWise, or other). • Participation: Taking part or not in this research study is your decision. You can decide to participate and then change your mind at any point, but you will be only be compensated if you complete the survey.
--

You are being invited to participate in a research study. This consent form tells you about the study including its purpose, what you will be asked to do if you decide to take part, and the risks and benefits of being in the study. Please read the information below and ask us any questions you may have before you decide whether or not you want to participate.

PURPOSE OF THE STUDY



The purpose of this study is to understand how Quechua-Spanish bilingual speakers perceive their own languages.

WHO IS BEING ASKED TO PARTICIPATE?

You are being asked to participate because you are a Quechua-Spanish bilingual speaker.

PROCEDURES: WHAT WILL YOU BE ASKED TO DO?

You will complete a web-based survey that can be completed on a tablet (for example, iPad), smartphone (for example, iPhone or Android), or computer. You will first complete questions about your personal background and the languages you use most frequently. Then, you will listen to recordings of several speakers and answer some questions about what you hear.

WHAT ARE POSSIBLE RISKS AND DISCOMFORTS?

There are no expected risks associated with this research.

WHAT ARE POTENTIAL BENEFITS FROM THE STUDY?

There will be no personal benefits for you from participating in the research. Rather, benefits will be to the scientific community.

CONFIDENTIALITY: WHO MAY KNOW THAT YOU PARTICIPATED IN THIS RESEARCH?

Your study data will be handled as confidentially as possible. If results of this study are published or presented, individual names and other personally identifiable information will not be used.

- To minimize the risks to confidentiality, we will assign you a participant number after you complete the survey. No link will be made between your identity and the number assigned to you.
- All survey data will be stored electronically on a password-protected computer.

COSTS AND COMPENSATION

- There are no costs associated with participating in this study.
- After completing the survey, you will be compensated with a \$10 virtual Amazon gift card.

DO YOU HAVE TO TAKE PART IN THIS STUDY?

Taking part in this research study is your decision. You do not have to participate in this research. If you choose to take part, you have the right to stop at any time. However, you will not be compensated if you do not complete the entire survey. Your decision to stop participation, or not to participate, will not influence current or future relationships with the University of Delaware.



INSTITUTIONAL REVIEW BOARD

This research study has been reviewed and approved by the University of Delaware Institutional Review Board (UD IRB), which is a committee formally designated to approve, monitor, and review biomedical and behavioral research involving humans. If you have any questions or concerns about your rights as a research participant, you may contact the UD IRB at hsrb-research@udel.edu or (302) 831-2137.

CONTACT INFORMATION

If you have any questions about the purpose, procedures, or any other issues related to this research study you may contact the Principal Investigator, Mackenzie Marcinko at marcinko@udel.edu.

CONSENT TO PARTICIPATE IN THE RESEARCH STUDY:

I have read and understood the information in this form and I agree to participate in the study. I am 18 years of age or older. I have been given the opportunity to ask any questions I had and those questions have been answered to my satisfaction. I understand that I will be given a copy of this form for my records.

Printed Name of Participant (PRINTED NAME)	Signature of Participant (SIGNATURE)	Date
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Person Obtaining Consent (PRINTED NAME)	Person Obtaining Consent (SIGNATURE)	Date
--	---	------

Appendix C

POST HOC ANALYSIS SUPPLEMENTARY MATERIALS

C.1 Correlation Matrix

	NB1	NB2	NB3	NB4	NB5	NB6
NB1	1.00	0.14	0.11	0.11	0.10	-0.13
NB2	0.14	1.00	0.34	0.36	0.40	0.21
NB3	0.11	0.34	1.00	0.42	0.41	0.15
NB4	0.11	0.36	0.42	1.00	0.34	0.17
NB5	0.10	0.40	0.41	0.34	1.00	0.17
NB6	-0.13	0.21	0.15	0.17	0.17	1.00
SO1	0.08	0.36	0.46	0.42	0.42	0.17
SO2	0.13	0.33	0.36	0.41	0.36	0.06
SO3	0.17	0.41	0.37	0.42	0.45	0.14
SO4	0.21	0.32	0.31	0.43	0.42	0.09
SO5	0.03	0.39	0.42	0.44	0.43	0.12
SO6	0.19	0.38	0.31	0.42	0.45	0.15
ST1	0.06	0.29	0.16	0.27	0.25	0.54
ST2	-0.12	0.15	0.02	0.10	0.03	0.56
ST3	0.07	0.36	0.34	0.35	0.34	0.36
ST4	0.15	0.41	0.28	0.29	0.42	0.43
ST5	-0.07	0.27	0.04	0.13	0.14	0.61
ST6	-0.11	0.23	0.05	0.07	0.15	0.60

(Continued from previous)

	ST1	ST2	ST3	ST4	ST5	ST6
NB1	0.06	-0.12	0.07	0.15	-0.07	-0.11
NB2	0.29	0.15	0.36	0.41	0.27	0.23
NB3	0.16	0.02	0.34	0.28	0.04	0.05
NB4	0.27	0.10	0.35	0.29	0.13	0.07
NB5	0.25	0.03	0.34	0.42	0.14	0.15
NB6	0.54	0.56	0.36	0.43	0.61	0.60
SO1	0.26	0.06	0.30	0.36	0.14	0.08
SO2	0.07	-0.02	0.34	0.28	0.08	0.02
SO3	0.24	0.07	0.43	0.35	0.18	0.12
SO4	0.24	0.05	0.35	0.33	0.12	0.06
SO5	0.25	0.04	0.29	0.40	0.08	0.11
SO6	0.26	0.05	0.37	0.32	0.15	0.12
ST1	1.00	0.50	0.39	0.44	0.51	0.47
ST2	0.50	1.00	0.34	0.26	0.61	0.56
ST3	0.39	0.34	1.00	0.33	0.32	0.32
ST4	0.44	0.26	0.33	1.00	0.41	0.40
ST5	0.51	0.61	0.32	0.41	1.00	0.61
ST6	0.47	0.56	0.32	0.40	0.61	1.00

(Continued from previous)

	SO1	SO2	SO3	SO4	SO5	SO6
NB1	0.08	0.13	0.17	0.21	0.03	0.19
NB2	0.36	0.33	0.41	0.32	0.39	0.38
NB3	0.46	0.36	0.37	0.31	0.42	0.31
NB4	0.42	0.41	0.42	0.43	0.44	0.42
NB5	0.42	0.36	0.45	0.42	0.43	0.45
NB6	0.17	0.06	0.14	0.09	0.12	0.15
SO1	1.00	0.38	0.46	0.42	0.48	0.38
SO2	0.38	1.00	0.50	0.50	0.37	0.50
SO3	0.46	0.50	1.00	0.66	0.45	0.63
SO4	0.42	0.50	0.66	1.00	0.41	0.80
SO5	0.48	0.37	0.45	0.41	1.00	0.43
SO6	0.38	0.50	0.63	0.80	0.43	1.00
ST1	0.26	0.07	0.24	0.24	0.25	0.26
ST2	0.06	-0.02	0.07	0.05	0.04	0.05
ST3	0.30	0.34	0.43	0.35	0.29	0.37
ST4	0.36	0.28	0.35	0.33	0.40	0.32
ST5	0.14	0.08	0.18	0.12	0.08	0.15
ST6	0.08	0.02	0.12	0.06	0.11	0.12

C.2 Scree Plot

