Self-reported Motivation and the L2 Acquisition of Subject Pronoun Variation in Spanish

Bret Linford
Indiana University

1. Introduction

An important aspect of second language acquisition (SLA) is that of obtaining sociolinguistic competence in the second language (L2) (Bayley & Regan, 2004; Geeslin, 2011; Regan, Howard & Lemée, 2009). Sociolinguistic competence has been defined as "the receptive and productive knowledge of sociolinguistic variants and of the linguistic, social, and stylistic factors that govern their usage" (Mougeon, Nadasdi & Rehner, 2010). Hence, L2 learning not only involves acquiring linguistic structures and vocabulary, but learning to vary the use of these linguistic structures and vocabulary in a native-like manner (Geeslin, 2011). Studies on the L2 acquisition of Spanish have investigated several variable linguistic structures such as the copular verbs, mood distinctions, future time reference, object pronouns, perfective past time reference, progressive aspect, and subject form expression (see Geeslin, 2011 for a review). The goals of the current study are to continue this important line of research on the acquisition of sociolinguistic competence by examining how English-speaking learners of L2 Spanish vary their selection of subject pronouns and specifically to consider the possible relationship between learner motivation and the L2 acquisition of subject expression in Spanish.

2. Subject expression in Spanish
2.1. Subject expression in Spanish as a first language

Spanish allows the subject of finite verbs to be null (example 1) or overt[1] (example 2).

1. *Ø Habla español* ([He] speaks Spanish)
2. *Él habla español* (He speaks Spanish)

Some contexts require categorical use of specific subject forms. For example, the existential verb *haber* as well as verbs referring to weather such as *nevar* (to snow) do not permit overt subject expression. However, years of research has shown that for many contexts categorical use of one form or another does not exist, that is to say, many linguistic contexts allow for the variation between null and overt subject pronouns (see Otheguy, Zentella & Livert, 2007).

Studies on subject expression in L1 Spanish have found that variation between null and overt subject pronouns is related to the person and number of the referent (Bayley & Pease-Alvarez, 1996; Otheguy et al., 2007), tense, mood, and aspect (TMA) of the verb (Erker, 2005; Geeslin & Gudmestad, 2010), lexical content of the verb (Otheguy & Zentella, 2007), continuity of reference (Bayley & Pease-Alvarez, 1997; Bentivoglio, 1987; Cameron, 1995; Otheguy et al., 2007; Shin & Otheguy, 2009), linguistic priming (Abreu, 2012; Cameron, 1994; Cameron & Flores-Ferrán, 2004; Flores-Ferrán, 2005), discourse cohesion (Bayley and Pease-Alvarez, 1997; Geeslin & Gudmetad, 2011),

[1] Overt subject expression also includes full lexical noun phrases, demonstrative pronouns, interrogative pronouns and indefinite pronouns.

Continuity of TMA (Bayley & Pease-Álvarez, 1997; Geeslin & Gudmestad, 2011) as well as several other factors. While much of this research shows clear dialectal differences with regard to the overall rates of subject form expression, the factors that guide subject expression have been found to be the same across dialects (Cameron, 1994, 1995).

Pertinent to the current study are the factors of Continuity of reference, person and number of the referent, TMA of the verb, and Continuity of TMA. Continuity of reference (a.k.a. Switch reference) examines whether or not the referent of a finite verb has the same referent as the previous finite verb in the discourse. If the previous verb has a different referent, then the context is considered to be 'switch-reference' while if the previous verb has the same referent, then the context is coded as 'same-reference.' As one might expect, studies have found that native speakers tend to produce more overt subject pronouns in switch-reference contexts than same-reference contexts (Bayley & Pease-Alvarez, 1997; Bentivoglio, 1987; Cameron, 1995; Otheguy et al., 2007; Shin & Otheguy, 2009).

With regard to person and number, the general trend is for native speakers to produce more overt subject pronouns with singular subjects than plural ones (Otheguy et al., 2007; Bayley & Pease-Alvarez, 1996). When considering the two most frequent persons and numbers found in oral interview data, namely 1st person singular (1sg) and 3rd person singular (3sg), most research[2] finds that 1sg[3] is associated with higher use of overt subject pronouns than 3sg (Cameron, 1992; Enríquez 1984; Geeslin & Gudmestad, 2008; Bayley & Pease-Alvarez, 1996, 1997; Shin, 2012).

The most common finding concerning TMA of the verb is that inherently ambiguous verbal forms, such as the imperfect or conditional forms for 1sg and 3sg, co-occur with higher rates of overt subject pronouns than unambiguous forms (Bayley & Pease-Alvarez, 1996; Cameron, 1994; Erker, 2005; Hochberg, 1986; Silva-Corvalán, 1994)[4].

Finally, Geeslin and Gudmestad (2011) find that native speakers tend to use more overt subject pronouns when the TMA of the preceding finite verb is different than when TMA of the preceding finite verb is the same.

2.2. Subject expression in L2 Spanish

Previous variationist research on subject expression in L2 Spanish has shown that highly advanced learners of Spanish appear to reach a native-like sensitivity to the various factors that influence subject form variation (Geeslin & Gudmestad, 2008, 2010, 2011). Through an analysis of sociolinguistic interviews of native and highly advanced non-native speakers of Spanish, Geeslin and Gudmestad (2008, 2010, 2011) found that subject expression by both native and highly advanced non-native speakers is influenced by the verb's person and number, specificity of the referent, TMA of the verb, potential ambiguity of the verb form, potential ambiguity of the discourse context, discourse cohesiveness, and perseveration (i.e. linguistic priming). However, when looking at the overall frequencies of the subject forms produced, the highly advanced non-native speakers produced more null subjects and less of the least common subject forms (i.e. demonstrative pronouns, indefinite pronouns, etc.) than the native speakers. In a follow-up study by Geeslin & Linford (2012), it was found that in a highly controlled written contextualized task, the frequencies of selection of the different subject forms by native and highly advanced non-native speakers were not statistically different, suggesting that the differences in frequency in the oral data were possibly due to different types of discourse structures produced by each group.

With regard to the path of acquisition of subject form variation, most studies find that as proficiency in L2 Spanish increases so does the use of null subject pronouns (Geeslin & Linford, 2012; Linford, 2009; Pérez-Leroux & Glass, 1999). Furthermore, as L2 speakers of Spanish become more proficient, they also become more native-like in their sensitivity to the various factors that are related

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[2] However, some studies show the rates of 3sg overt subject pronouns are either equal to the rates of overt 1sg subject pronouns (Hochbeg, 1986) or greater than the rate of 1sg pronouns (Otheguy, Zentella & Livert, 2010).

[3] See Travis & Torres Cacoullos (2012) which give an in depth discussion on the cognitive, mechanical and constructional factors that constrain 1sg subject expression and help explain this observation.

[4] Some studies have found no effect of TMA on subject form variation (e.g. Carvalho & Child, 2011; Travis, 2007)

to subject form variation (Geeslin & Linford, 2012; Linford, 2009). However, it is reasonable to assume that L2 learners' progress toward achieving this native-like expression of subject forms is mediated by additional individual difference factors beyond proficiency.

3. Motivation in second language acquisition

One learner ID that has been studied extensively is that of motivation. Dörnyei (2005) states that motivation "provides the primary impetus to initiate L2 learning and later the driving force to sustain the long and often tedious learning process" (p. 65). While various methods have been proposed to define and measure motivation to learn a second language[5], the analysis of motivation in the current study is based on the most well-known model proposed by Gardner & Lambert (1959). In this model, motivation is essentially seen as being either Integrative or Instrumental. Integrative motivation is defined as both an interest in learning a second language to be able to interact with native speakers of the community and having positive attitudes toward the native speakers and culture of the second language. Instrumental motivation, on the other hand, is defined as an interest in learning a second language for a pragmatic goal such as a future job.

While studies have found that L2 learners possess a variety of motivations, both Integrative and Instrumental (Ely, 1986), many find that only Integrative motivation (as opposed to Instrumental motivation) can predict student success in L2 learning (Dörnyei & Clément, 2000; Dörnyei & Schmitt, 2001; Ely, 1986; Gardner, 1985, 2000; Gardner & Lambert, 1972; Hernández, 2006, 2010; Masgoret & Gardner, 2003). Hernández (2010), for example, obtained data regarding both Integrative and Instrumental motivation by L2 learners of Spanish participating in a study abroad program in Spain. By means of a multivariate analysis, he found that the learners' Integrative motivation was a significant predictor of their interaction with the culture and native speakers; those learners with higher Integrative motivation had more interaction with Spanish outside of class. More interaction with the native speakers and L2 culture, in turn, led to greater improvement on a simulated oral proficiency interview (SOPI) after the study abroad experience. Instrumental motivation, on the other hand, was not a significant predictor of the learners' interaction in Spanish outside of class.

Most studies evaluating the relationships between motivation and SLA tend to consider how motivation relates to overall proficiency in the L2 (e.g. Hernández, 2006), L2 learner behavior (e.g. Dörnyei & Clément, 2000; Ramage, 1990), or both (Hernández, 2010). While some measures of proficiency may take into account general sociolinguistic competence (e.g. the SOPI used in Hernández, 2010), to the knowledge of the author, no studies have examined the relationship between L2 learners' motivation and the acquisition of the ability to vary between specific grammatical forms in a native-like way. However, Regan (1995) mentions that motivation appears to play a role in the acquisition of sociolinguistic competence, but does not present any quantitative data to support this claim. In addition, the only ID that studies investigating the L2 acquisition of subject form variation have taken into account is level of L2 proficiency. In order to address these issues and further investigate the acquisition of subject pronoun expression in L2 Spanish, the current study seeks to answer the following research questions:

1. Does overall self-reported motivation toward Spanish predict the frequency of selection of subject pronouns and/or does it mediate sensitivity to other linguistic predictors of subject pronoun selection by L2 speakers?
2. Do specific types of self-reported motivation predict overall subject pronoun variation and/or mediate sensitivity to other predictors of subject pronoun variation by L2 speakers?

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[5] Some recent work on motivation in L2 learning discusses the concept in terms of the 'L2 Motivational Self System' or the 'ideal L2 self' (see Dörnyei, 2005) and/or examine the concept even further by including three motivational components with several subcomponents on the levels of the language, the learner, and the learning situation (e.g. Dörnyei, 1994).

4. Methods

4.1. Participants

The participants for the current study were 79 English-speaking[6] learners of L2 Spanish currently enrolled in six different 3rd year Spanish courses at a large Midwestern public research university. Of the participants, there were 52 females and 27 males with an average age of 19.77 years. Only 15 participants (less than 20% of the total) had spent 3 or more weeks in a Spanish speaking country.

4.2. Tasks

Each participant completed three tasks either online or on paper. The participants first completed a written contextualized preference task (WCT), followed by a grammatical proficiency test, and finally a background questionnaire.

The WCT consisted of an invented dialogue between two native speakers of Spanish about a weekend hiking trip. Embedded within the task were 16 items that contained two options: a phrase containing an overt subject pronoun or a phrase that had a null subject pronoun. The participants were instructed to choose the option that they felt sounded most natural in the specific context. For the context of each item there was a different combination of four manipulated variables. The variables manipulated in the WCT were 1) Continuity of reference (switch or same), 2) Person of the referent (1sg or 3sg), 3) TMA (preterit indicative or imperfect indicative), and 4) Continuity of TMA (switch vs. same TMA). These variables were included due to their influence found by previous research on subject expression in L1 and L2 Spanish. In addition to these variables, other contextual factors were controlled for each item in order to avoid potential confounding factors: each context included only first and third person singular referents, preterit and imperfect indicative forms of the verb, and verbs in main clauses. Furthermore, all the previous mentions of the referents in the items were null pronouns in the subject position and none of the items contained "fixed phrases." Along with the manipulated and controlled variables, 22 less common words/phrases in the task included English translations in parenthesis to avoid the possibility that the results were related to a lack of understanding.[7] The following example taken from the WCT was coded as switch-reference, same TMA, preterit indicative and 3sg. The full version of the WCT is found in section 8.1.

3. **Manuel***: Déjame adivinar (*Let me guess)[8]*...Carlos no sabía.*
   Pedro*: Bueno yo sí creo que no sabía a dónde iba pero cuando le pregunté,...*
       a)   *...me dijo "¡Claro que sí! ¿No confías en mí o qué?"*
       b)   *...él me dijo "¡Claro que sí! ¿No confías en mí o qué?"*

   Manuel: Let me guess...Carlos did not know.
   Pedro: Well yeah, I think he didn't know where he was going but when I asked him...
       a)   …Ø told me "Of course! Do you trust me or what?"
       b)   …he told me "Of course! Do you trust me or what?"

In order to assess the participants' grammatical proficiency in Spanish, the next task the participants completed was a grammatical proficiency test that consisted of a fictional narration in

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[6] A total of 94 participants completed the tasks initially, but 15 participants were excluded from the final analysis due to having another first language and/or having a parent that had an L1 of a language other than English.

[7] The author chose which words to translate by giving two classes of 2nd year L2 learners the task without translations and asked them to indicate which words or phrases they did not understand. Although not all the words and phrases indicated by the students were translated, the author included those that were unknown to the majority of the learners.

[8] The English translation of *Déjame adivinar* is also included in parenthesis with the Spanish text because it was one of the less-common phrases that were accompanied by English translations in parenthesis in the WCT.

Spanish with 25 multiple-choice cloze passage items.[9] The participants were instructed to choose between three possible options to complete the sentences grammatically. The following is an example taken from the test accompanied by an English translation.

4. *Creo que es muy interesante _____ de los hábitos alimenticios de la gente.*
    - a. *hablo*
    - b. *hablar*
    - c. *hablando*

I think it's really interesting _____ about people's eating habits.
    - a. (I) talk
    - b. to talk
    - c. talking

The average score on the test by participants of this study was 53.8% (s =12.8%), or a little over 13 items answered correctly per person. For the analysis of the results, each participant was categorized into one of four grammatical proficiency levels based on the quartile in which they fell in the distribution of the proficiency test scores. Table 1 summarizes the four levels and their respective proficiency test mean percent scores and standard deviations (s).

Table 1. Grammatical proficiency categorization levels

Proficiency level	Level 1	Level 2	Level 3	Level 4
N of participants	22	21	23	13
Percentile in the test	< 25	26-50	51-75	> 76
Mean % for prof. test*	39.8 (s = 5.9)	49.5 (s = 2.0)	59.7 (s = 3.4)	74.5 (s = 7.8)

*$F_{(3,75)} = 155.415$, $p<.001$

The third and final task the participants completed was a background questionnaire containing 53 items which elicited basic demographic information and information about the participants' experience with Spanish and other languages. Included in the questionnaire were 12 motivation statements that the participants were asked to rate on the 5-point Likert scale from 1 (strongly agree) to 5 (strongly disagree). The statements were written to evaluate the participants' Instrumental motivation (4 items) and Integrative motivation, which was split into two subcategories: Interactive motivation (4 items) and Attitudinal motivation (4 items). The Instrumental statements assessed the learners' motivation to learn Spanish for practical goals such as a future job, the Interactive motivation items evaluated their interest in learning Spanish to be able to interact with native speakers, and the Attitudinal items measured the learner's motivation to learn Spanish due to having positive attitudes toward the native speakers of Spanish and Hispanic/Latino culture.[10] For each type of motivation, there were two positive and two negative statements. In order to obtain the total self-reported scores, the scores for the positive statements were reversed so that the higher the number, the higher the self-reported motivation. The possible range of raw scores for self-reported motivation was from 12 to 60. The average raw score from the 12 items for the participants was 51.54 (s = 5.1). The results of a reliability test showed that the Cronbach's alpha (i.e. internal consistency) of these items was .753, which, according to George & Mallery (2012), is within an 'acceptable' range of reliability.

After determining each participants' score of overall self-reported motivation and their scores for each type of motivation, they were categorized into four groups from least (Level 1) to most motivated (Level 4) based on the quartile in which the participant fell in the distribution of the raw overall self-reported motivation scores and for each of the three types of motivation. Table 2 presents the distribution of the overall self-reported motivation levels.

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[9] The Cronbach's Alpha (internal consistency) for the proficiency test was .868 based on the results of over 500 native and non-native participants who completed the test for this and other studies. This falls within the 'good' range of internal consistency (George & Mallery, 2012).

[10] Refer to subsection 8.2 the complete list of motivation statements used.

Table 2. Motivation categorization levels

Motivation level	Level 1	Level 2	Level 3	Level 4
N of participants	24	20	16	19
Percentile	< 25	26-50	51-75	> 76
Motivation mean score*	45.5 (s = 3.6)	51.1 (s = .7)	54.1 (s = .7)	57.6 (s = 1.1)

*$F(3,75) = 131.195$, $p<.001$

4.3. Analysis

The dependent variable of the study was the binary selection of a null or overt subject pronoun. The potential predictors of subject pronoun selection included the four manipulated binary factors mentioned previously: Continuity of reference, TMA, Continuity of TMA, and Person. In addition, the learner IDs of L2 proficiency (4 levels based on the grammatical proficiency test), overall self-reported motivation (4 levels based on self-reported motivation totals) and Instrumental, Interactive, and Attitudinal motivation were also included in the analysis.

In order to assess the impact of each factor on the selection of subject pronouns, SPSS 20 was used to run a variety of statistical tests. First, the overall percent selection of null pronouns was calculated for each participant, then one-way ANOVAs were run to determine if the frequency of selection of nulls differed significantly between proficiency groups and motivation groups. Second, a bivariate correlation test was run to test the linear relationship between proficiency test scores and self-reported motivation scores as well as between scores on the three types of motivation. Finally, binary logistic regressions were run in order to test the null hypothesis that none of the factors significantly predicted the selection of subject pronouns. The binary logistic regressions were first run on the group as a whole then within each level of motivation in order to see if the participants' sensitivity to the other variables was mediated by self-reported motivation toward Spanish.

5. Results
5.1. Results for the overall distribution of subject pronoun selection and regression analysis

Firstly, the overall frequencies of the selection of the two subject pronouns by the entire participant group are presented in Table 3.

Table 3. Overall frequencies of forms selected

Subject pronoun selected	N	%
null	668	53.7
overt	575	46.3
TOTAL	1243	100

In general, there is a trend to select more null than overt subject pronouns by the participants. However, this trend appears to be weak given that the selection of either pronoun is nearly 50%. When selection of null pronouns was compared between individual levels of proficiency, the overall trend was a slight increased selection of null pronouns as proficiency increased, but these differences were only marginally significant [$F(15,63) = 1.684$, $p=.078$]. A similar trend was found when looking at the groups by motivation, but again no statistically significant differences were observed.

The results for the binary logistic regression showed that the only factors included in the model (i.e. significantly predicted subject pronoun selection) were Continuity of reference ($p<.001$) and Person ($p<.05$). TMA, Continuity of TMA, and self-reported motivation, on the other hand, were not included in the model as significant predictors of subject pronoun selection. Table 4 presents the distribution of the selection of subject pronouns by Continuity of reference.

Table 4. Subject from selection by Continuity of reference

Subject form selected	Same-reference		Switch-reference	
	N	%	N	%
null	373	60.1	295	47.4
overt	248	39.9	327	52.6

χ^2=19.961, df=1, p<.001

As can be observed in Table 4, the participants as a group selected more overt subject pronouns in switch-reference than in same-reference contexts. This finding reflects the trends found in previous research examining oral data from native speakers (Bayley & Pease-Alvarez, 1997; Bentivoglio, 1987; Cameron, 1995; Otheguy et al., 2007; Shin & Otheguy, 2009) as well as from non-native speakers of similar proficiency as the participants in the current study (Linford, 2009).

Table 5 presents the distribution of subject pronoun selection for the entire group of participants by Person.

Table 5. Subject from selection by Person

Subject form selected	1st person singular		3rd person singular	
	N	%	N	%
null	355	57.1	313	50.4
overt	267	42.9	308	49.6

χ^2=5.563, df=1, p<.05

The participants of this study selected more overt subject pronouns with 3sg referents than 1sg referents. While this variable is significant, it trends in the opposite direction from what has been found in many studies examining the oral data of native speakers (Cameron, 1992; Enríquez 1984; Geeslin & Gudmestad, 2008; Bayley & Pease-Alvarez, 1996, 1997; Shin, 2012). However, the direction of the effect is native-like when comparing these results to the results of native speakers who completed the same WCT (Geeslin, Linford, & Fafulas, 2012).

5.2. Correlations between proficiency and motivation scores

Before presenting any results of the potential mediation of levels of proficiency and motivation on the selection of subject pronoun forms and the linguistic predictors, it is important to present results that indicate if there is a positive correlation (i.e. interaction) between proficiency and motivation scores. The reason for presenting these tests first is that if there is a positive correlation between motivation and proficiency (i.e. as proficiency scores go up so do motivation scores), then any influence of motivation on subject pronoun selection would be inconclusive. In other words, it would be unclear whether the influence of motivation is actually due to motivation, proficiency, or both.

The results of a bivariate correlations test revealed that there was a statistically significant positive correlation between overall self-reported motivation scores and proficiency test scores (R = .365, p<.01). In order to circumvent this positive correlation between motivation and proficiency, it was decided to use only a more homogenous portion of the participants as far as grammatical proficiency with the hope that there would still be a wide enough range of motivation scores among these participants for statistical analyses. To this end, the least (lower quartile) and most proficient (upper quartile) participants according to the proficiency test were excluded from the following analysis.

After excluding the participants from these quartiles, the participant pool was reduced to the 44 participants (or 704 tokens) and another bivariate correlation test was run to see if the positive correlation between motivation and proficiency scores was still present in the subset of the data. The results of this test show that when analyzing only the data from proficiency Levels 2 and 3, there is no longer a significant correlation between proficiency and motivation (R = -.011, p=.774). Thus, with this new data set, we can confidently accept that any results related to motivation do not automatically relate to proficiency as well.

The last step taken before the new data set was submitted to statistical analyses was to re-categorize the remaining 44 participants into L2 proficiency and motivation levels. This was done in the same manner as with the whole group of participants by determining the quartiles of the new distribution with the proficiency scores and motivation scores and placing each participant in a group according to which quartile their score corresponded. The new distributions of proficiency and motivation levels are presented in Tables 6 and 7.

Table 6. Subset *grammatical proficiency* categorization levels

Proficiency level	Level 1	Level 2	Level 3	Level 4
N of participants	13	17	7	7
Percentile in the test	< 25	26-50	51-75	> 76
Mean % for prof. test*	48.0 (s = 0)	54.1 (s = 2.0)	60.0 (s = 0)	64.0 (s = 0)
Motivation mean score	52.9 (s = 5.0)	50.2 (s = 4.6)	54.1 (s = 4.3)	51.4 (s = 4.5)

*$F(3,40) = 273.649$, $p < .001$

Table 7. Subset *motivation* categorization levels

Motivation level	Level 1	Level 2	Level 3	Level 4
N of participants	13	13	7	11
Percentile	< 25	26-50	51-75	> 76
Motivation mean score*	46.1 (s = 3.1)	51.1 (s = .8)	53.8 (s = .4)	58.0 (s = 1.1)
Mean % prof. test	55.7 (s = 5.1)	54.8 (s = 6.2)	50.7 (s = 3.8)	56.0 (s = 5.9)

*$F(3,40) = 79.082$, $p < .001$

As can be seen in the Table 6, the range of means by levels for the proficiency test is 16 percentage points in the new data set, a large reduction from the previous 34.6 percentage point range when all the participants were included. In contrast, consistent with the anticipated results, the range of motivation score means in the new data set (11.9), presented in Table 7, is virtually the same as it was when all the participants were included (12.1). Thus, with the new data set, we have a more homogenous group of participants with regard to grammatical proficiency while retaining virtually the same range of self-reported motivation mean scores as in the original data set.

5.3. Results for the new data set

Now that grammatical proficiency level no longer interacts with self-reported motivation, we are able to examine whether or not self-reported motivation toward Spanish plays an independent and/or mediating role on subject pronoun selection. In order to assess whether or not motivation played an independent role, a binary logistic regression was run including all the linguistic variables along with the self-reported motivation variable. The results showed that the variable overall self-reported motivation was again not a significant predictor of subject pronoun selection.

In order to test the potential mediating effects of self-reported motivation on subject pronoun selection by the linguistic predictors, binary logistic regressions were run for each of the four levels of self-reported motivation from the least motivated (Level 1) to the most motivated (Level 4). The results of these analyses are presented in Table 8 with the variables included in each regression model (i.e. the significant predictors) indicated with an 'X' while the asterisks indicate the level of significance.

Table 8. Summary of binary logistic regression analyses for motivation levels with linguistic variables

Motivation Group	Continuity of reference	Person	TMA	Continuity of TMA	% predicted
Level 1					
Level 2					
Level 3					
Level 4	X**	X*			60.4

Note. *=*p*<.05, **=*p*<.01

Firstly, as found previously, neither TMA nor Continuity of TMA was included in the model as significant predictors of subject pronoun selection for any level of self-reported motivation. The variables of Person and Continuity of reference, however, were only significant predictors of subject pronoun selection for the group with the highest mean of self-reported motivation (i.e. Level 4). The following Figure 1 presents the selection of null pronouns by each level of by Continuity of reference.

Figure 1. Selection of null pronouns by levels of motivation in switch and same reference contexts
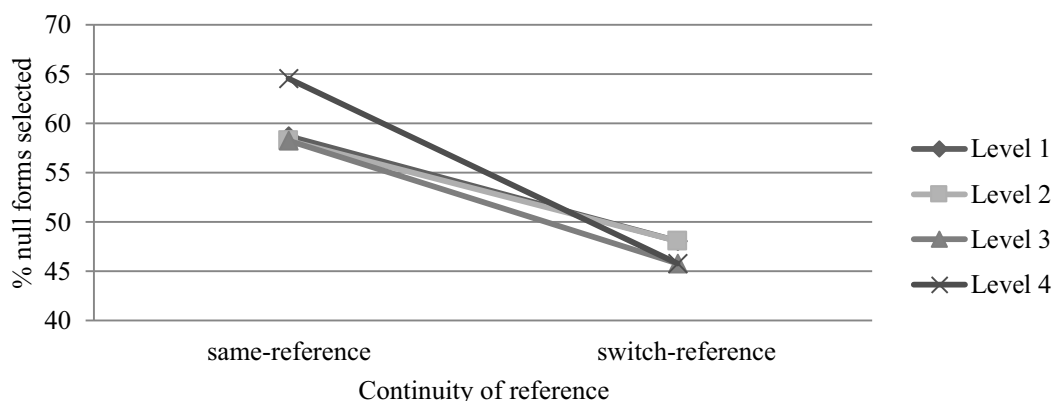
While the selection of null pronouns is lower in switch-reference contexts than in same-reference contexts for all groups, as mentioned previously, this difference is only statistically significant for the speakers with the highest level of self-reported motivation toward learning Spanish (p<.01). As seen in Figure 1, the Level 4 group displays the greatest difference (about 20 percentage points) between same- and switch-reference contexts. This difference among level 4 participants is presented in the following Table 9.

Table 9. Subject from selection by Continuity of reference for motivation Level 4

Subject form selected	Same-reference N	Same-reference %	Switch-reference N	Switch-reference %
null	62	64.6	44	45.8
overt	34	35.4	52	54.2

χ^2=6.824, df=1, p<.01

The differences between levels of self-reported motivation and the influence of Person of the referent on subject pronoun selection is presented in Figure 2.

Figure 2. Selection of null pronouns by levels of motivation for Person
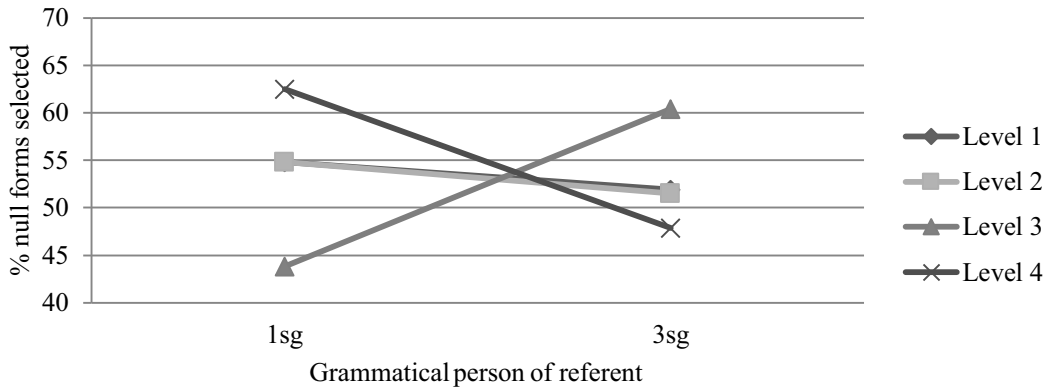
Only for the Level 4 motivation group is there a clear (and statistically significant) trend to select more null pronouns with 1sg referents than with 3sg referents. The other three levels show either little or no differences between grammatical persons or the opposite trend in the case of the Level 3 group (albeit statistically insignificant). In Table 10, the results of the linguistic variable Person and selection of the subject pronouns are presented for the Level 4 group.

Table 10. Subject from selection by Person for motivation Level 4

Subject form selected	1st person singular		3rd person singular	
	N	%	N	%
null	60	62.5	46	47.9
overt	36	37.5	50	52.1

χ^2=4.128, df=1, p<.05

To summarize the findings of this section, when examining the subset of the participants, self-reported motivation was not found to be an independent predictor of subject pronoun selection. However, the results show that self-reported motivation mediates sensitivity to the other variables included in the analysis. Specifically, the results of the binary logistic regressions for each level of self-reported motivation show that the selection of subject pronouns is not significantly predicted by any of the linguistic variables included in the analysis for self-reported motivation Levels 1, 2, and 3. Subject pronoun selection for Level 4, however, was significantly predicted by the variables Continuity of reference and Person.

5.4. Results by different types of motivation

In order to answer the second research question, an analysis of each type of motivation (i.e. Interactive, Instrumental, and Attitudinal) was undertaken. The results, however, are less than clear. In the first place, it was found that when testing for correlations between the different types of motivation by means of bivariate correlation tests, there were statistically significant positive correlations between all three types of motivation. Thus, those participants reporting high scores for Interactive motivation, for example, tended to also report high scores for the other two types of motivation. Therefore, as with the positive correlation between proficiency and overall self-reported motivation when all the participants were included in the analysis, it would be difficult to draw any concrete conclusions as far as the effects of each specific type of motivation on subject pronoun selection.

In spite of this fact, however, statistical analyses were carried out to see if there were any differences between the overall subject pronoun selection and the subject pronoun selection by the linguistic predictors among the different levels of the different types of motivation. The results of these analyses showed that while the three motivation types appeared to mediate the linguistic predictors of the selection of subject pronouns to a certain degree, all but one of the findings were mixed and

difficult to interpret. For example, when examining the results by levels of self-reported Interactive motivation, the linguistic predictor of Person was only significant for the group with the lowest level of Interactive motivation but in the opposite direction than expected, while Continuity of reference was only significant for the participants in the second highest level of self-reported Interactive motivation, but again in an non-native-like direction. Moreover, with Instrumental motivation, only Continuity of reference was found to be significant and only for motivation Levels 1 and 3. Finally, the only result similar to the overall self-reported motivation results was that self-reported Attitudinal motivation appeared to mediate sensitivity to Continuity of reference given that Continuity of reference was only found to be a significant predictor for those participants categorized in Level 4 and in a native-like direction. In sum, given the significant positive correlations between the types of motivation and the mixed results, for this initial study no clear conclusion as far as how each specific type of motivation influences the selection of subject pronouns can be drawn.

6. Discussion

The goal of the current study was to investigate if motivation plays a role in the L2 acquisition of the sociolinguistic competence of subject pronoun variation in L2 Spanish. The first research question asked if self-reported overall motivation toward Spanish significantly predicts the frequency of selection of subject pronoun forms and/or mediates sensitivity to other linguistic predictors of subject pronoun selection by L2 speakers. As far as an independent influence of self-reported motivation and overall frequency of subject pronoun selection, the null hypothesis is retained since self-reported overall motivation was not included in the regression model as a significant predictor of subject pronoun selection. On the other hand, a marginally significant result was found when examining the participants based on grammatical proficiency level, namely, that as proficiency increases so does null subject pronoun selection. This finding has been attested in previous research (Geeslin & Linford, 2012; Linford, 2009; Pérez-Leroux & Glass, 1999). One obvious possibility as to why this result was only marginally significant could be due to the fact that the participants were rather homogenous as far as proficiency since all were enrolled in a 3rd year university Spanish course. For example, Pérez-Leroux & Glass, (1999) included participants enrolled in 2nd and 4th year Spanish university courses while Geeslin & Linford (2012) recruited participants from first year all the way to graduate-student university courses.

In spite of the negative results for motivation as an independent predictor, the results of the smaller subset of participants suggest that overall self-reported motivation mediates sensitivity to at least some the linguistic predictors included in the analysis. After the significant positive correlations between the participants' grammatical proficiency and self-reported motivation were removed, only the group of participants which reported having the greatest overall motivation toward Spanish significantly varied their selection of subject pronouns according to the linguistic predictors of Continuity of reference and Person. As far as Continuity of reference, the most motivated group of participants selected less null subject pronouns (i.e. more overt subject pronouns) in switch-reference contexts which, as stated in section 5.1, is the same trend found in oral data for native speakers (Bayley & Pease-Alvarez, 1997; Bentivoglio, 1987; Cameron, 1995; Otheguy et al., 2007; Shin & Otheguy, 2009) as well as L2 speakers at similar levels of proficiency (Linford, 2009). With regard to Person, the most motivated group of participants of this study selected less null subject pronouns with 3sg forms than 1sg forms. This finding coincides with previous research examining L2 learner oral data (Linford, 2009) but diverges from oral data of several studies on native speakers which find that 1sg forms are accompanied by the lower rates of null subject pronouns than 3sg forms (Cameron, 1992; Enríquez 1984; Geeslin & Gudmestad, 2008; Bayley & Pease-Alvarez, 1996, 1997; Shin, 2012). However, Geeslin, Linford, & Fafulas (2012) analyzed data from native speakers using the same WCT that was used in the current study and found that on this task, native speakers also selected less null subject pronouns (i.e. more overt subject pronouns) with 3sg forms than 1sg forms. Thus, it can be concluded that this group of motivated leaners varies their selection of subject pronouns according to Continuity of reference and Person in a native-like way. More generally, these results suggest that motivation toward a second language facilitates the L2 acquisition of sociolinguistic competence

(Regan, 1995). The learners who are more motivated appear to acquire native-like variation of subject pronouns before their less-motivated, but equally proficient, counterparts. In other words, the more motivated learners appear to be adjusting their interlanguage before the other learners at the same level of proficiency.[11]

The study also sought to determine if any of the subcomponents of overall motivation (i.e. Interactive, Attitudinal, and Instrumental) by themselves predicted overall subject pronoun variation and/or mediated sensitivity to other predictors of subject pronoun variation by L2 speaker (research question 2). Unlike previous research which finds that only Integrative motivation (i.e. Interactive and Attitudinal motivation) is related to increased proficiency in the L2 (Dörnyei & Clément, 2000; Dörnyei & Schmitt, 2001; Ely, 1986; Gardner, 1985, 2000; Gardner & Lambert, 1972; Hernández, 2006, 2010; Masgoret & Gardner, 2003), the results in the current study were inconclusive with regard to the potential relationship between the different types of motivation and the L2 acquisition of subject pronoun variation in Spanish. A possible reason for this discrepancy could be due to the fact that motivation was only analyzed based on the self-reported scores instead of also including participants' actions and/or contact with Spanish people and culture as indirect evidence of their motivation. In fact, Allen (2010) astutely states that "motivation is not located solely within an individual but is constructed and constrained by the learning context and evolves as individuals participate in learning activity" (p. 30). Another possible explanation for this result could be the way in which the different statements about motivation were categorized and/or how each type of motivation was defined. Indeed, it is difficult to objectively decide whether or not specific statements included in the background questionnaire elicited responses of Attitudinal or Interactive motivation, for example. It is conceivable that more interpretable differences between the three types of motivation would emerge if categorized differently by means of a factor analysis, for instance, to see which statements group with others in order to objectively categorize them. Finally, it may be that each subcomponent cannot individually predict when a learner will acquire sociolinguistic competence or that the learner needs to possess all three types of motivation in order to acquire this competence. Whatever the case may be, further research and analyses are needed to clarify this unexpected finding.

7. Conclusion

The current investigation is the first of its kind to use quantitative methods in such a way to determine if individual differences beyond L2 proficiency play an active role in the acquisition of sociolinguistic competence. Specifically, the findings suggest that motivation toward Spanish mediates the L2 acquisition of subject pronoun variation in Spanish given that only the group of participants that rated themselves as being the most motivated toward Spanish were sensitive to Continuity of reference and Person when selecting subject pronouns on the WCT. These results support the claim by Regan (1995) that motivation plays an important role in the acquisition of sociolinguistic competence as well as reinforcing its importance in SLA in general (Dörnyei, 2005). In addition, the current study presents a novel method to tease apart interactions between independent variables that are correlated.

In spite of the unique contributions of this paper, there are some limitations that provide avenues for future investigations. First, the current study only examines the effects of motivation on the acquisition of one variable linguistic structure (subject pronouns). Future research should be carried out to corroborate the findings here by examining the relationship between motivation and the L2 acquisition of other variable linguistic structures in Spanish and other languages. Second, the participants from the current study are relatively homogenous with regard to their proficiency in Spanish which, as mentioned previously, may have led to some of the insignificant findings. Future research on the topic should include participant groups from a variety of L2 proficiency levels to see if the effect of motivation is present at other stages in the L2 development. Furthermore, given that all participants were recruited from the same university, it is uncertain whether acquiring this specific

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[11]Another possible explanation of the results is that the participants who had higher motivation scores put forth a greater effort to complete the WCT and this effort explains the differences between levels of proficiency. However, this hypothesis could only be verified by a questionnaire/interview which included specific questions about the participants' effort to complete the tasks.

type of sociolinguistic competence is due to the participants' desire to learn the department's curriculum faithfully or because the highly motivated participants seek additional input outside of the classroom. Thus, future investigations would benefit from gathering data from learners enrolled in a variety of academic institutions as well as including details about the respective departments' curriculums with regard to the linguistic structure under examination and the participants' interaction with Spanish outside of the classroom. Third, the proficiency of the participants were based solely on university course enrollment and the written proficiency test. Additional tests assessing the learners' verbal, auditory and sociolinguistic proficiency in Spanish could be employed to triangulate the grouping of the participants according to proficiency. Data triangulation would also be beneficial with regard to assessing learner motivation given that only self-reported motivation scores were examined in this study. Including data about the participants' actions and contact with Spanish-speaking people and culture beyond their self-reported motivation would strengthen the operationalization of the variable. Finally, the current study only takes into account the learner IDs of motivation and proficiency. Future studies on the acquisition of sociolinguistic competence would benefit from the inclusion of additional IDs such as working memory, language aptitude, personality types, etc. (see Ellis, 2004 for an overview) as well as attributes of the context in which the learning takes place (Collentine & Freed, 2004) given the fact that previous research has demonstrated their importance in SLA.

8. Appendices
8.1. Written contextualized task

Instructions: Read the following dialogue between two Hispanic college students. As you come to the multiple choice items, select the answer that you prefer.

Background: Pedro just got home from a hiking trip with a couple of his friends that didn't go as planned. His roommate Manuel knows nothing about the trip and decides to ask Pedro where he's been.

Manuel: ¿Qué pasa, Pedro?
Pedro: ¡No lo vas a creer!
Manuel: ¿Qué? ¿Dónde has estado?
Pedro: ¡Nos perdimos en el bosque y pasamos la noche sin tienda ni linterna (*flashlight*) ni nada!
Manuel: ¿De verdad? ¡Qué fuerte! ¿Qué pasó? Bueno, para empezar ¿Por qué estuviste en el bosque? Cuéntame todo.
Pedro: Conoces a Carlos y a Diego, mis amigos de instituto ¿no?
Manuel: Sí, claro.
Pedro: Pues, anoche estábamos mirando el partido de fútbol en la tele pero yo estaba muy aburrido y como no tenía tarea,…
    ☐ …quería hacer algo diferente de lo normal.
    ☐ …yo quería hacer algo diferente de lo normal.
Pedro (*contn'd*): Se lo dije a mis amigos y se sentían igual. Entonces Carlos dijo que había un camino de montaña que quería hacer ¿no? y le dije que ya era un poco tarde pero me dijo que el camino era muy corto y que estaba seguro de que lo completaríamos antes de que se oscureciera (*it got dark*)… y bueno, como yo no conocía el área, lo creí y…
    ☐ …tenía ganas de hacer algo diferente de verdad.
    ☐ …yo tenía ganas de hacer algo diferente de verdad.
Manuel: ¿Y luego?
Pedro: Pues, entonces nos preparamos y salimos en el coche de Carlos para las montañas y después de como una hora en coche llegamos al camino. Antes de empezar a caminar yo le dije a Carlos otra vez que pensaba que era muy tarde pero esta vez casi se enfadó y…
    ☐ …me dijo que dejara de tener miedo de la oscuridad (*darkness*) como un niñito.

☐ …él me dijo que dejara de tener miedo de la oscuridad como un niñito.

Pedro (*contn'd*): Y bueno, me callé (*I shut up*) y empezamos a caminar. Al principio todo estaba bien y realmente me sentía muy relajado al estar en las montañas, en la naturaleza y r espirar el aire limpio y todo…pero después de como media hora de caminar se oscureció mucho. Y pues, caminamos en la oscuridad un rato y Diego comentó que no podía ver muy bien y de repente…

☐ …se tropezó (*tripped*) en no sé qué.

☐ …él se tropezó en no sé qué.

Manuel: ¡Qué cosa! y ¿se lastimó? (*Did he get hurt?*)

Pedro: No mucho, ¡menos mal! Pero en fin decidimos regresar al coche, y Carlos nos dijo que conocía bien el camino y que no nos preocupáramos. Pero después de poco tiempo, yo empecé a dudar de la confianza (*confidence*) de Carlos porque no podía ver ningún camino y por eso…

☐ …le pregunté a Carlos si sabía a dónde iba.

☐ …yo le pregunté a Carlos si sabía a dónde iba.

Manuel: Déjame adivinar (*Let me guess*)…Carlos no sabía.

Pedro: Bueno yo sí creo que no sabía a dónde iba pero cuando le pregunté,…

☐ …me dijo "¡Claro que sí! ¿No confías en mí o qué?"

☐ …él me dijo "¡Claro que sí! ¿No confías en mí o qué?"

Pedro (*contn'd*): Entonces, seguimos a Carlos hasta que pasaron casi dos horas y por fin Carlos admitió que estábamos perdidos. En este momento quería echarle bronca (*chew him out*) pero me resistí porque sabía que teníamos que pensar en una solución. Primero, Diego sugirió que regresáramos por el camino porque no quería quedarse la noche sin tienda pero…

☐ …yo no quería que nos perdiéramos más, entonces…

☐ …no quería que nos perdiéramos más, entonces…

Pedro (*contn'd*): …sugerí que buscáramos un lugar seguro para dormir y buscar camino el día siguiente. Ellos se pusieron de acuerdo y después de poco tiempo encontramos una cueva (*cave*) y yo, de verdad, tenía un poco de miedo de entrar a la cueva pero en este momento empezó a llover así que no teníamos opción. Al entrar en la cueva, comenzamos a pensar más en la situación y Diego dijo que tenía frío y me preguntó si…

☐ …yo tenía algo para hacer un fuego…

☐ …tenía algo para hacer un fuego…

Pedro (*contn'd*): …pero no tenía nada. Entonces Carlos dijo que había visto a un hombre en la tele prender un fuego con dos palos y que parecía muy fácil. Yo sabía que no era tan fácil pero decidí callarme porque no tenía una idea mejor. Entonces…

☐ …él trató (*tried*) de prender el fuego durante una media hora…

☐ …trató de prender el fuego durante una media hora…

Pedro (*contn'd*): …pero al final se dio por vencido (*he gave up*). Entonces otra vez nos quedamos sin saber qué hacer para mejorar la situación un poquito. Aunque creo que todos teníamos sueño (*were tired*), no podíamos dormir por los nervios. Entonces Diego dijo que había bajado (*downloaded*) una película ese mismo día en su iPod Touch. Así que sacó su iPod y puso la película.

☐ Planeaba esperar para verla con su novia….

☐ Él planeaba esperar para verla con su novia….

Pedro (*contn'd*): …pero decidió que estábamos un poquito desesperados (*desperate*). Aunque yo sabía que iba a ser difícil mirarla, me daba igual porque quería hacer algo para distraerme de la situación.

Manuel: ¿Ah sí? ¿Qué película era?

Pedro: La verdad es que no recuerdo.

Manuel: ¿Y te ayudó olvidar (*forget*) de la situación?

Pedro: Hombre, ¡Para nada! ¡Era una película de horror! No sé por qué no dije nada.

☐ Miré la película completa como tonto.

☐ Yo miré la película completa como tonto.

Manuel: ¡De acuerdo!

Pedro: Pero de todas formas al final de la película todos nos quedamos muy callados y se notaba que ahora todos teníamos mucho miedo. Especialmente Carlos porque respiraba fuertemente y…

    ☐ …decía que escuchaba pisadas (*footsteps*) en el bosque.

    ☐ …él decía que escuchaba pisadas en el bosque.

Manuel: ¿Y las escuchaste tú también?

Pedro: Yo no escuché nada de pisadas. Sólo escuchaba el viento y la lluvia pero…

    ☐ …estaba seguro de que escuchaba pisadas cerca de la cueva.

    ☐ …él estaba seguro de que escuchaba pisadas cerca de la cueva.

Pedro (*contn'd*): Pero bueno, no sé cómo pero me dormí. Pero, por suerte o por desgracia, eso sólo duró unos treinta minutos más o menos porque Carlos me despertó porque Diego ya no se encontraba en la cueva y por eso estaba muy preocupado.

    ☐ Yo le dije que seguro que no había pasado nada y…

    ☐ Le dije que seguro que no había pasado nada y…

Pedro (*contn'd*):..apenas (*just as*) se lo dije, apareció Diego diciendo que solo había salido un par de minutos para ir al baño. Pero bueno, por fin después de este susto (*scare*) pequeño, todos nos dormimos hasta que salió el sol. ¿A que no sabes lo que vimos cuando miramos desde la entrada de la cueva a unos doscientos metros? ¡el estacionamiento (*parking lot*) mismo donde estaba el coche de Carlos!

Manuel: ¡¿De verdad!?   ¡No me digas!

Pedro: ¡Ya lo sé! ¡Qué tonto! ¿No? Todavía no lo puedo creer. Diego tenía tanta prisa de salir que cogió (*grabbed*) sus cosas y se fue corriendo hacia el coche y…

    ☐ …le seguí sin mirar atrás.

    ☐ …yo le seguí sin mirar atrás.

Pedro (*contn'd*): Entonces, llegamos al coche en un minuto, nos subimos y aquí estoy.

Manuel: ¡Vaya! ¡Qué noche!

Pedro: Sí, ¿pero sabes la cosa más increíble? ¡En camino a casa, Carlos dijo que nunca tuvo miedo durante toda la experiencia! ¡Qué tontería! (*How stupid!*) ¿no? Se lo dije pero…

    ☐ …no paraba de repetirlo.

    ☐ …él no paraba de repetirlo.

Manuel: ¡Eso sí es gracioso! Carlos sí es un personaje, ¿no?

Pedro: Sí, pero ¿qué se puede hacer? Es uno de mis mejores amigos. Pues, ¡tengo un sueño que no veas! Si me disculpas, voy a acostarme.

Manuel: Hombre, por supuesto. ¡Lo necesitas!

Pedro: Buenas noches.

Manuel: ¡Buenos días!

8.2. Motivation statements by category

Instrumental
  1) Knowing Spanish helps when looking for a job.
  2) Spanish is not an important language for my future career.
  3) Learning Spanish will help me become successful.
  4) There are no real advantages to speaking Spanish.
Interactive
  5) My cultural values are similar to those of Spanish-speakers.
  6) I have no desire to assimilate to a Spanish-speaking culture.
  7) Speaking Spanish with a native-like accent does not matter to me.
  8) I like to mimic the way Spanish speakers sound because it is an important component of the language.
Attitudinal
  9) I would like to travel to a Spanish-speaking country.

10) I am not interested in visiting a Spanish-speaking country.
11) Speaking a language other than English is not necessary to understand other cultures.
12) Learning about Spanish-speaking cultures helps to understand the world better.

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