Exploring Learner Language Development During Short-Term Study Abroad

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Abstract

The number of U.S. college students participating in study abroad programs has grown steadily in recent years, with more than 62% of participants choosing short-term programs lasting a maximum of eight weeks. It is commonly believed that study abroad is the best way to advance speaking skills, but what types of gains can we expect during such short programs? This descriptive study explores gains in learners’ speaking ability during a six-week study abroad program in Spain. Participants’ personal stories, narrated before and immediately after the program, were analyzed to pinpoint changes in fluency and accuracy. Learners demonstrated increases on almost all measures of fluency and showed improvement in past tense morphology. These results suggest that short-term study abroad can promote the development of oral skills in terms of longer and more accurate production. Pedagogical activities that focus on discourse analysis (of exemplar texts and students’ own narratives) and self-evaluation apply the research findings to the classroom context.

Introduction

It is a common belief that study abroad programs are beneficial for second language learners (Freed, Segalowitz, & Dewey, 2004), which makes it a productive topic of research in the field of second language acquisition (SLA). The number of studies designed to investigate the accuracy of these beliefs has been growing in recent years. Most research focuses on oral skills improvement after studying abroad, as it is said to be the area in which learners achieve the greatest gains (Freed, 1995; Freed et al., 2004; Juan-Garau & Pérez-Vidal, 2007; Llanes, 2011). Oral skills
development is measured in various ways, including measures of overall proficiency, vocabulary, fluency, accuracy, and pronunciation. Although the measures may differ, the results of these studies are largely similar: Study abroad leads to gains in second language (L2) speaking ability.

The overwhelming majority of research studies that investigate the outcomes of study abroad focuses on programs that last one semester or longer (Freed, 1995; Freed et al., 2004; Juan-Garau & Pérez-Vidal, 2007; Lennon, 1990; Llanes, 2011), while short-term programs remain largely overlooked. At the same time, short-term programs attract more students every year due to their relatively lower cost and shorter time commitment compared to longer-term alternatives. According to the Institute of International Education, short-term study abroad programs (shorter than eight weeks) are more popular among students (Llanes, 2011). It is, therefore, evident that this area of research needs more development. It is crucial to investigate the kinds of outcomes that can be expected from short-term programs, and how these programs compare to the longer-term alternatives in terms of effectiveness. This study contributes to the growing pool of knowledge about the effects of short-term study abroad on the development of students’ speaking skills. In particular, we investigate the changes in fluency and accuracy, as well as morphosyntactic development after L2 Spanish students’ participation in a six-week study abroad program in Spain.

Background

In this section we review the relevant literature. First, we discuss the general notions of oral fluency, accuracy, and morphosyntactic development. Next, we provide a brief overview of the effects of study abroad on the development of these components of L2 speech.

Oral fluency

The term fluency is used in various ways in the context of foreign language teaching and learning, although its definition is rather vague. Merriam-Webster describes fluency as “the ability to speak easily and smoothly” or “ability to speak a foreign language easily and effectively” (fluency, n.d.), leaving it unclear what the terms easily or smoothly mean. Freed et al. (2004) reported an informal survey among first-year undergraduate students, where the definitions of fluency were quite vague as well: “speaking quickly and smoothly,” “speaking without saying um, without hesitations,” “speaking perfectly,” and “talking easily” (p. 276). These loose definitions correspond to what Lennon (1990) calls a broad definition of fluency that functions as a cover term for oral proficiency. He suggests that in this definition fluent represents “the highest point on a scale that measures spoken command of a foreign language” (p. 389). In accord with this broad framework, Freed et al. (2004) propose that fluency is a “relatively loose cover term, with both global and restricted interpretations that vary from context to context, speaker to speaker, and listener to listener” (p. 279). In a more narrow sense, fluency is just one component of oral proficiency, different from other components, such as accuracy or appropriateness. Lennon (1990) suggests that in the narrow sense, definitions of temporal features of
speech, such as “native-like rapidity” are emphasized, with the target speech being “at the tempo of native speakers, unimpeded by silent pauses and hesitations, filled pauses …, self-corrections, repetitions, false starts, and the like” (p. 390). In a later study, Lennon (2000) reformulated his working definition of fluency as the “rapid, smooth, accurate, lucid, and efficient translation of thought or communicative intention into language under the temporal constraints of on-line processing” (p. 26).

Chambers (1997) argued that such a widely-used criterion of oral performance assessment as fluency should be defined specifically to guarantee the validity of those assessments. She proposed that a study of temporal variables would allow for greater precision of the meaning behind general terms used to describe fluency. Although there is no agreed-upon and widely used definition of fluency, most researchers seem to agree with the emphasis on the temporal and hesitation features of speech.

Various researchers set out to establish the best predictors of fluency among non-native speakers (cf. Freed, 1995; Lennon, 1990; Riggenbach, 1991; Towell, Hawkins, & Bazergui, 1996). Most studies had a similar design, where experts were asked to qualitatively rate some speech samples for fluency, and then those samples were analyzed on a variety of measures. The ones that corresponded best with the experts’ ratings were identified as the best predictors of fluency. Several measures were found to appear more frequently than others: speech rate, mean length of runs, and phonation–time ratio. To calculate speech rate Riggenbach (1991) suggested first dividing the total number of syllables produced in a given speech sample by the amount of total time required to produce the speech sample, including pause time, expressed in seconds, and then multiplying that figure by 60 to get the number of syllables per minute. The mean length of runs is calculated as an average number of syllables produced in utterances between pauses of 0.25 seconds or more. Finally, the phonation–time ratio is calculated as the percentage of time spent speaking as a percentage proportion of the time taken to produce the speech sample.

**Accuracy**

In general, accuracy refers to error-free L2 production (Housen & Kuiken, 2009). In a review of the literature on approaches to measuring accuracy in L2 discourse, Polio (1997) found that researchers tend to measure accuracy using three different approaches: (a) holistic scales; (b) error-free T-units/error-free clauses; and (c) number of errors without particular classification. The first measure involves using holistic tools to evaluate learners’ production using a number scale, with a lower number signifying less accurate and a higher number meaning more accurate production. The second, more objective measure takes into account the total number of error-free independent and dependent clauses (T-units). The third approach uses other linguistic means to calculate the number of errors. Examples include average number of errors per T-unit, ratio of total number of errors in structures studied in class to total number of clauses, number of errors per 100 words, and so forth.

**Morphosyntactic accuracy**

**Tense and aspect in Spanish.** Tense and aspect are both temporal markers on the verb, with tense being a dependent category that places a situation in time with
respect to the moment of speech, and aspect reflecting the different perspectives a speaker can take and express in relation to temporal sequence of events. Aspect can be expressed lexically by the inherent lexical semantics of the verb and its interaction with direct and indirect arguments and adjuncts (Montrul & Salaberry, 2003). Aspect can also be expressed grammatically by means of inflectional morphology on the verb. This is particularly true for Spanish.

Vendler (1967) classifies verbs into four different lexical aspectual categories: states (no input of energy), activities (arbitrary beginning and endpoint), accomplishments (durative and inherent endpoint), and achievements (inherent end point but no duration). The following examples are base forms of the verbs that will take on tense and aspect readings in context and representative of the four classes:

a. Statives: ser ‘be,’ tener ‘have,’ querer ‘want’

b. Activities: correr ‘run,’ caminar ‘walk,’ respirar ‘breathe’

c. Accomplishments: escribir una novela ‘write a novel,’ correr una milla ‘run a mile’

d. Achievements: morirse ‘die,’ darse cuenta de algo ‘realize something.’

Vendler (1967) further classifies verbs among three dimensions: dynamism (i.e., non-static), telicity (i.e., express an endpoint), and punctuality (i.e., instantaneous actions). Activity, accomplishment, and achievement verbs are all dynamic, but are different from one another in duration and in telicity.

Inflection morphemes “indicate the internal temporal constituency of a situation” in Spanish (Comrie, 1976). One of the most common aspectual oppositions is the perfective–imperfective opposition that occurs in Spanish (de Miguel Aparicio, 1992). Perfective aspect deals with the beginning and end of a situation and is bounded. Imperfective aspect focuses on the internal structure of the situation, viewing it with no specific endpoint, which causes it to be unbounded. In Spanish, the perfective/imperfective distinction is grammaticalized with tense morphology on the verb. Therefore, in the past tense in Spanish, inflectional morphology marks both tense and aspect. The preterite encodes perfectivity and the imperfect encodes imperfectivity.

The L2 acquisition of aspect in Spanish: The Aspect Hypothesis. The Aspect Hypothesis (Andersen, 1986) attempts to explain the relationship between the acquisition of tense/aspect morphemes and lexical classes. Based on his observations of his two children learning Spanish in Puerto Rico, Andersen (1986) plotted the acquisition of past tense morphology across eight developmental stages as seen in Table 1. Learners overuse the present tense across all four lexical classes throughout the first two stages. Later we begin to see the preterite emerge in achievement and accomplishment verbs and the imperfect with stative and activity verbs. Adult-like usage of the preterite and imperfect with stative verbs is not observed until stage VIII, the last stage; additionally, proper use of preterite and imperfect verbs happens with activity verbs in stage VI, with accomplishments in state V, and achievement verbs in stage VII.
Table 1. Developmental Stages (Montrul & Salaberry, 2003; based on Andersen, 1986)

<table>
<thead>
<tr>
<th>Stages</th>
<th>States</th>
<th>Activities</th>
<th>Accomplishments</th>
<th>Achievements</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Present</td>
<td>Present</td>
<td>Present</td>
<td>Present</td>
</tr>
<tr>
<td>II</td>
<td>Present</td>
<td>Present</td>
<td>Present</td>
<td>Preterite</td>
</tr>
<tr>
<td>III</td>
<td>Imperfect</td>
<td>Present</td>
<td>Present</td>
<td>Preterite</td>
</tr>
<tr>
<td>IV</td>
<td>Imperfect</td>
<td>Imperfect</td>
<td>Preterite</td>
<td>Preterite</td>
</tr>
<tr>
<td>V</td>
<td>Imperfect</td>
<td>Imperfect</td>
<td>Pret/Imperf</td>
<td>Preterite</td>
</tr>
<tr>
<td>VI</td>
<td>Imperfect</td>
<td>Pret/Imperf</td>
<td>Pret/Imperf</td>
<td>Preterite</td>
</tr>
<tr>
<td>VII</td>
<td>Imperfect</td>
<td>Pret/Imperf</td>
<td>Pret/Imperf</td>
<td>Pret/Imperf</td>
</tr>
<tr>
<td>VIII</td>
<td>Pret/Imperf</td>
<td>Pret/Imperf</td>
<td>Pret/Imperf</td>
<td>Pret/Imperf</td>
</tr>
</tbody>
</table>

A considerable body of research has been collected that tests the Aspect Hypothesis with L2 Spanish past tense morphology. Cadierno (2000), for example, discovered several stages of development of perfective and imperfective aspect as illustrated in Table 2.

Table 2. Developmental Stages (Cadierno, 2000)

<table>
<thead>
<tr>
<th>Stages</th>
<th>States</th>
<th>Activities</th>
<th>Accomplishments</th>
<th>Achievements</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Present</td>
<td>Present</td>
<td>Present</td>
<td>Preterite</td>
</tr>
<tr>
<td>II</td>
<td>Imperfect</td>
<td>Present</td>
<td>Present</td>
<td>Preterite</td>
</tr>
<tr>
<td>III</td>
<td>Imperfect</td>
<td>Imperfect</td>
<td>Present</td>
<td>Preterite</td>
</tr>
<tr>
<td>IV</td>
<td>Imperfect</td>
<td>Imperfect</td>
<td>Pret/Imperf</td>
<td>Preterite</td>
</tr>
<tr>
<td>V</td>
<td>Imperfect</td>
<td>Pret/Imperf</td>
<td>Pret/Imperf</td>
<td>Preterite</td>
</tr>
<tr>
<td>VI</td>
<td>Pret/Imperf</td>
<td>Pret/Imperf</td>
<td>Pret/Imperf</td>
<td>Pret/Imperf</td>
</tr>
</tbody>
</table>

One can observe in Table 2 that Cadierno (2000) mapped form–function development across only six stages: stage I shows the preterite is used in achievements; in stage II the imperfect in states; in stage III the imperfect in activities, in stage IV
the imperfect in accomplishments, in stage V the preterite in activities, and in stage VI the preterite in states and the imperfect in achievements. In stages I and II, one notes the emergence of one form in one context. Later, in stages III–V, the forms are spread to additional contexts. Finally, stage VI demonstrates that the learner has acquired a full form–function mapping. Her results are a full two stages shorter than what Andersen (1986) proposed. Conflicting results and evidence suggesting that the role of lexically based aspectual categories may be more limited than once thought led Montrul and Salaberry (2003) to call for research to be done exploring the Lexical Aspect Hypothesis with L2 Spanish learners.

The L2 acquisition of aspect in Spanish: The Discourse Hypothesis. As an alternative to lexically based accounts of tense and aspect acquisition, Bardovi–Harlig (1994) proposed a more contextually based approach to researching the emergence of past tense morphology. The Discourse Hypothesis relates the emergence of past tense morphology with the narrative structure of L2 discourse in particular. Narrative structure is made up of two key parts: the foreground and the background. The purpose of the foreground is to develop the overall structure of the discourse (Hopper, 1979) and to help the story move along (Dry, 1983). Three temporal criteria are central to the foreground: (a) narrativity or temporal continuity, which are the narrative units whose order matches the order of the events in the discourse; (b) punctuality, which are the units that report punctual events; and (c) completeness, which are the units that report a completed event. The punctuality and completeness units relate more with the foreground than units reporting ongoing, repetitive or habitual events. These units are also more easily identified with the foreground than durative events (Reinhart, 1984, as cited in Bardovi-Harlig, 2000).

Whereas the events in the foreground are used to develop the plot line, structure, and to move time forward, the background has many functions, all of which serve the purpose of supporting the foreground. In contrast with foreground events, background events can be non-sequential, and they provide support for or elaboration of the events that are related in the foreground (Hopper, 1979). Background clauses, for example, aid in the interpretation of an event by revealing prior events, refer to a simultaneous event, and/or assess an action that is taking place in the foreground (Bardovi-Harlig, 2000).

The interlanguage Discourse Hypothesis (Bardovi-Harlig, 1994) is based on Hopper's (1979) work on aspectual markers in narrative discourse. Hopper proposed that there is typically a specialized aspectual marker utilized for foregrounding and another for backgrounding. Bardovi-Harlig suggested that learners thus employ verbal morphology to differentiate the background from the foreground in the narratives they produce. In a study of the narratives produced by L2 English students, Bardovi-Harlig (1995) found that simple past forms emerged in the foreground, while past morphology emerged in the background later, yet never surpassing the use of past morphology in the foreground.

Applying the Discourse Hypothesis (Bardovi-Harlig, 1994, 1995) to a L2 Spanish context, Lafford (1996) analyzed the discourse produced by 15 L2 Spanish learners when retelling the story depicted in a clip from the silent Disney movie Fantasia. She found that the likelihood of a more even distribution of verbs in the background
versus verbs in the foreground increased with proficiency. Consistent with the Discourse Hypothesis, she also discovered that learners tended to use the preterite to mark the foreground events and the imperfect to mark background events. The 15 learners were grouped according to their oral proficiency based on the ACTFL Proficiency Guidelines (7 Intermediate High, 6 Intermediate Mid, 2 Intermediate Low). Upon examining the data, she discovered that the preterite was more common than the imperfect in the foreground in all three groups. However, there was variation among the groups’ utilization of the imperfect. The Intermediate High group utilized the imperfect with almost every verb in the background and used preterite forms more often in the foreground. The Intermediate Mid group produced preterite verbs exclusively and used an equal number in both the foreground and background. The Intermediate Low group also did not produce any imperfect forms either, and of the preterite verbs produced, each was present only in the foreground. All other verbs were in the present.

Comparing theoretical frameworks. When comparing the Aspect Hypothesis with the Discourse Hypothesis, the question researchers need to take into consideration is whether the analysis and interpretation of a single data set can be grounded in both theoretical frameworks. Although the hypotheses appear to be distinct, with one relying on lexical aspect and the other on discourse structure, Bardovi-Harlig (1999) suggests that both hypotheses share some of the features of temporal semantics. Verbs in the foreground are bounded events, so they will be accomplishments or achievements, which are acquired first according to the Lexical Aspect Hypothesis. Verbs in the background, on the other hand, are atelic events, so they will be activities or states, which emerge later in L2 speech in accordance with the lexical aspect hypothesis. However, where the Aspect Hypothesis predicts that atelic foregrounded verbs have a low likelihood of appearing in the preterite in the foreground, the discourse hypothesis predicts the opposite case, thus signaling a potential difference between the two theoretical frameworks.

Effects of study abroad on fluency and accuracy development

One of the most important factors in foreign language acquisition is the context of learning (Llanes, 2011), and most research in SLA has been done in naturalistic and classroom contexts. A growing body of research is now appearing on immersion and study abroad programs, although it is still quite scant. It is believed that learners’ oral proficiency benefits the most from study abroad experience (Llanes, 2011), which could be the reason that a large part of research on the learning outcomes of study abroad programs focuses on participants’ oral proficiency.

Fluency is one of the most commonly studied components of speaking skills development. To the best of our knowledge, all research studies on gains during study abroad have registered positive changes in learners’ fluency. For example, Lennon (1990) used several temporal and hesitation variables to analyze change in the oral fluency during a six-month study abroad program of students of English as a foreign language. He found that performance on some of those variables had improved, and in addition that participants’ speech was perceived as more fluent by a panel of trained judges.
Freed (1995) investigated how students of L2 French improved their fluency in study abroad and at home contexts, and found that those who had experience living abroad spoke more and at a faster rate. Freed et al. (2004) also looked at students of French, but they compared three contexts: at home, study abroad, and U.S.-based immersion. While they did see an improvement in fluency among the study abroad participants, they also found that immersion students demonstrated even greater gains.

Juan-Garau and Pérez-Vidal (2007) studied Spanish/Catalan bilinguals studying English as a third language. In contrast to previously discussed studies, they tested their participants’ oral proficiency on five occasions over a period of time: upon students’ entrance to the university, six months later, immediately prior to their study abroad experience, immediately after their return from the study abroad, and one year later. The researchers found that study abroad helped students improve their fluency, but it did not play a role in the accuracy or complexity of their speech.

Research on accuracy development in study abroad is limited, but studies to date have also demonstrated promising results. In studies using bilingual Spanish/Catalan learners of English, Llanes and Muñoz (2009) found significant gains in accuracy in learners’ speech during a short-term sojourn (three to four weeks) abroad, and Mora and Valls-Ferrer (2012) found moderate gains in accuracy in speech samples elicited over a two-year period. In a particularly innovative study, Leonard and Shea (in press) measured accuracy gains in the oral discourse produced by American English-speaking students studying Spanish for a semester in Argentina. They too found statistically significant improvements. However, the researchers noted that the learners who experienced the greatest gains had higher levels of L2 linguistic knowledge and faster L2 processing prior to their stay abroad.

Whether studying in a formal classroom at home or abroad, the context of learning may also play a key role in developing grammatical accuracy. However, there is little empirical research on this topic, especially in short-term study abroad settings. The meager research that does exist shows conflicting results (Collentine, 2004; DeKeyser, 2007, 2010; Isabelli, 2003; Mora & Valls-Ferrer, 2012).

There is evidence to suggest that students make little to no progress in grammatical accuracy, particularly in past-tense morphosyntactic development, during a study abroad program. Studying 16 students of Spanish during a six-week study abroad program in Argentina, DeKeyser (2010) evaluated students’ accuracy, fluency, and overall proficiency pre- and post-study abroad. He found that despite at least two years of college instruction and a high level of motivation, students lacked the proceduralized knowledge necessary to make substantial linguistic gains. Speaking in an accurate manner without paying attention to fluency was virtually impossible for the learners, even for basic structures, and even after completing their six-week sojourn.

In a study comparing the effects of learning context on morphosyntactic development, Collentine (2004) compared the abilities of two groups before and after studying Spanish for one semester. Group A was a group participating in a study abroad program in Alicante, Spain. Group B was made up of students
who studied Spanish at their home institutions in the United States. He discovered
that the at-home context facilitated more development on discrete grammar and
lexical features. However, the study abroad group achieved better narrative skills,
increased fluency, and produced language that was more semantically rich.

Mora and Valls-Ferrer (2012) also compared different learning contexts and
investigated the effects of study abroad programs and formal instruction at home
on learners’ oral production skills. The authors obtained speech samples at three
points over a two-year period: upon students’ enrollment in the university, after
two three-month terms of formal instruction, and immediately after a three-
month study abroad program. These speech samples were quantitatively analyzed
for fluency, accuracy, and complexity. Researchers found no gains during formal
instruction at home, while study abroad resulted in significant improvement in
fluency. Accuracy and complexity, however, appeared to remain largely the same
in both contexts. These findings provide strong evidence for the positive impact
study abroad can have on students’ oral production, and especially their fluency.

Previous research clearly demonstrates that participation in study abroad
programs helps learners improve their speaking skills. However, most research
is done on long-term study abroad programs. With the growing popularity of
short-term programs, it is necessary to investigate whether such programs yield
the same results as the long-term ones. This study intends to address this need and
poses the following research questions:

1. How does a short-term study abroad program affect the oral fluency of L2
   Spanish learners?
2. How does a short-term study abroad program affect the oral accuracy of L2
   Spanish learners?
3. What differences are there in the verbal morphology of the L2 Spanish
   learners’ oral narratives before and after a 6-week study abroad program?
   a. What are the differences in occurrence of past-tense morphology in
      obligatory past contexts pre- and post-study abroad?
   b. Does the distribution of past tense morphology in obligatory past con-
      texts follow the predictions of the Aspect Hypothesis, the Discourse
      Hypothesis, or both?

Methodology

This section describes the research design of the present study. We first provide
a brief description of the participants and context of the study, followed by an
explanation of the data collection procedures. We then describe the measures we
used to document changes in learner speech before and after study abroad.

Context and participants

The participants in this descriptive study were four female college students
of Spanish who participated in a short-term study abroad program in Valladolid,
Spain. They ranged in age from 19–23 years old. They all had completed four years
of high school Spanish and at least one year of college-level Spanish at a large
Midwestern university prior to studying abroad. The participants were selected
Performance + Proficiency = Possibilities

from a bigger pool of students in the summer study abroad program to allow for a more in-depth, case study-like analysis of each participant’s speaking skills development. The basis for the selection was the increase in the length of their oral speech samples, as measured by word count, collected from the study abroad participants before and at the end of their study abroad experience. Although all participants experienced a word count gain, the four subjects with the highest word count gain ($M = 69.8$) were selected for this study. We chose the four subjects with highest word count gain because longer speech samples provided a greater number of tokens for analysis.

The site for our data collection was an intensive six-week study abroad program in Valladolid, Spain. The goals of the program were twofold: to improve learners’ written and spoken Spanish and to broaden their knowledge about Spanish cultures and life in Spain. Participants were enrolled in three courses, which were taught in Spanish. Two of the courses were three credits each and were from a range of topics, including Spanish language, Spanish culture, and Spanish literature. In addition, all participants enrolled in the one-credit course “Life in Spain,” designed to help prepare them for the week of independent travel, and write a final paper about Spanish culture and their study abroad experience. This course was also conducted in Spanish. Additionally, for two hours a week they met with conversation partners who were native speakers of Spanish enrolled at a local university.

The participants lived with host families and shared a bedroom with another American student from the program. Although students shared an accommodation with a speaker of the same L1, they were encouraged to interact with each other and their host families in Spanish as much as possible.

Data collection

This study was designed to measure the immediate gains in fluency and accuracy, as well as morphosyntactic development as a result of participating in a short-term study abroad program, which is why we chose to use a pre-/post-test design. The pre-study abroad data were collected in the United States prior to students’ departure for Spain. The post-study abroad data were collected in Spain at the end of the program.

In the pre-study abroad data collection session, participants were presented with a stack of index cards. Each card had a Spanish word (accompanied by an English translation) designating an emotion. Participants were asked to look through the cards until one of the words triggered a memory of an episode from their life related to that emotion. Then they had to narrate that episode to the researcher. In the post-test the researcher reminded the participants of the story they had told and asked them to tell it again. We chose a re-telling task rather than the telling of another event because it allowed us to make a more precise comparison of the participants’ stories. Although repeating the same task is certainly a limitation, the participants were unaware that they would be required to retell the story. In addition, six weeks had passed between pre- and post-study abroad data collection, which minimizes the possibility of task repetition effects. All of the narrations were audio-recorded and were later transcribed by the researchers.
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Data analysis

Analysis of fluency. Fluency gains were evaluated on a number of measures. To be consistent with the previous research, we chose the measures found to be the best predictors of fluency: speech rate, phonation–time ratio, and mean length of runs. Speech rate was calculated as words per minute, with all Spanish words and non-Spanish proper nouns counted as words. False starts and full and partial repetitions were not included in the count. To measure phonation–time ratio, the percentage of time spent speaking was taken as a proportion of the time taken to produce the speech sample. In other words, we calculated how much of the time spent on producing the story was devoted to speaking by dividing the actual speaking time by the total speaking time and expressing the result as a percentage. The mean length of runs was represented as the average number of syllables produced in utterances between pauses of 0.5 second or more.

In addition to the measures described above, we used Freed et al.’s (2004) measures of general oral performance: total words spoken and duration of speaking time. As previously mentioned, the word count included all Spanish words and non-Spanish proper nouns and excluded false starts and repetitions. For the duration of speaking time two elements were taken into account. First, the total duration of speaking time from the first to the last word in the story was measured. The second measure reflected the duration of the student’s actual speaking time without pauses and interjections in either Spanish or English (e.g. um, eh, like).

Analysis of accuracy. To analyze the development of general accuracy we used the simple ratio of errors measure. First, we marked all the errors made by participants in their speech samples. All errors were counted equally (i.e., an agreement error was counted the same as a tense error and as a missing article error). We included both grammatical and lexical errors, but pronunciation errors were not taken into account. Second, we divided that number by the total number of words produced by participants in each sample and multiplied the result by 100 to get the percentage representation. This measure shows how many errors a participant made per 100 words, which is why the lower ratio means higher accuracy.

Analysis of morphosyntactic development. To analyze the emergence of past-tense morphology, all verbs and their predicates were identified. Next, verbs were coded for the differences in occurrence of past-tense morphology versus another form such as present, infinitive, subjunctive, and so forth. The verbs exhibiting past-tense morphology were then classified according to the four-part Vendler (1967) system (i.e., state, activity, accomplishment, achievement) and according to Hopper’s (1979) two-part discourse hypothesis system (i.e., background vs. foreground).

Due to the descriptive nature of this study and a low number of participants, we did not perform statistical analyses of the results. Instead, each participant’s changes were analyzed separately to demonstrate individual speaking skills across a variety of measures.

Results and discussion

In this section we present the results of the study. We first use various measures of fluency and accuracy to discuss the changes in learners’ narratives as a result
of their study abroad. Then we examine the development of learners’ past tense verbal morphology production. Finally, we discuss the overall development of each participant’s speaking skills.

**Fluency**

**Measure 1: Total words spoken.** All of the participants demonstrated gains in the number of words, which is not surprising given that for this analysis we chose participants with the biggest gains on this measure. Table 3 summarizes the numbers of words for pre- and post-study abroad speech samples and the gains demonstrated by the learners. Participant 1 demonstrated the biggest relative gain, increasing the number of words by almost twice and going from 87 words in the pre-test to 169 words in the post-test. Participant 4 showed the largest overall gain, increasing her speech sample by a total of 104 words, or by approximately 1.64 times. The mean word gain for the whole sample constituted 69.8 words.

**Table 3. Total Word Gain**

<table>
<thead>
<tr>
<th>Participant</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Difference</th>
<th>Relative difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>87</td>
<td>169</td>
<td>+82</td>
<td>94%</td>
</tr>
<tr>
<td>2</td>
<td>72</td>
<td>117</td>
<td>+45</td>
<td>62.5%</td>
</tr>
<tr>
<td>3</td>
<td>74</td>
<td>122</td>
<td>+48</td>
<td>64.8%</td>
</tr>
<tr>
<td>4</td>
<td>163</td>
<td>267</td>
<td>+104</td>
<td>63.8%</td>
</tr>
</tbody>
</table>

**Measure 2: Duration of speaking time.** The duration of speaking time was measured in two different ways. First, we measured the total duration of the sample from the first to the last word. Then, we measured each sample for the duration of actual speech; that is, without counting pauses, hesitations, or interjections in any language (e.g. *like, eh, um*). Table 4 summarizes the results.

All the participants demonstrated gains in both total and actual speech duration. Participant 1 demonstrated the highest result. She greatly increased her total speech time duration, adding 1 minute 30 seconds to her original speech sample time of 1 minute 40 seconds. However, her actual speaking time did not increase very much in comparison to her total speaking time. She demonstrated a gain of 26 seconds, but the fact that her total time went up 1 minute 30 seconds

**Table 4. Duration of Speech in Minutes and Seconds**

<table>
<thead>
<tr>
<th>Participant</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (pre)</td>
<td>Actual (pre)</td>
<td>Total (post)</td>
<td>Actual (post)</td>
</tr>
<tr>
<td>1</td>
<td>1:40</td>
<td>1:05</td>
<td>3:10</td>
</tr>
<tr>
<td>2</td>
<td>1:13</td>
<td>0:41</td>
<td>1:34</td>
</tr>
<tr>
<td>3</td>
<td>1:27</td>
<td>0:52</td>
<td>1:46</td>
</tr>
<tr>
<td>4</td>
<td>3:20</td>
<td>1:54</td>
<td>3:31</td>
</tr>
</tbody>
</table>
suggests that she added a lot of interjections and pauses to her post-test speech sample. Participant 4 showed the same trend, although on a much smaller scale. She added 11 seconds to her total time, while only adding a negligible 2 seconds to her actual speech. In Participants 2 and 3 we see roughly the same gain in total and actual times, which reflects that they really improved their actual speaking time, in contrast to Participants 1 and 4. This difference will be more salient in the phonation–time ratio measure, which calculates the proportion of actual speech time to the time spent telling the story in the sample.

**Measure 3: Phonation–time ratio.** The phonation–time ratio uses the results of the total and actual duration of speech time by 17% and 2.2%, respectively. While 2.2% does not seem significant, a 17% decrease raises questions as to why that learner experienced such a decline between her first and second times to tell her story.

Table 5. Phonation-Time Ratio

<table>
<thead>
<tr>
<th>Participant</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>65%</td>
<td>48%</td>
<td>−17%</td>
</tr>
<tr>
<td>2</td>
<td>56%</td>
<td>65.7%</td>
<td>+9.7%</td>
</tr>
<tr>
<td>3</td>
<td>59.8%</td>
<td>65%</td>
<td>+5.2%</td>
</tr>
<tr>
<td>4</td>
<td>57%</td>
<td>54.8%</td>
<td>−2.2%</td>
</tr>
</tbody>
</table>

**Measure 4: Speech rate.** Speech rate measure was used to calculate the average number of words spoken per minute. As shown in Table 6, all four participants demonstrated a gain on this measure. However, the gain demonstrated by Participant 1 is rather small. It is interesting that Participant 4 showed the biggest increase in the number of words spoken per minute, while her phonation–time ratio declined. In other words, this participant spoke faster on average, but the proportion of pauses slightly increased at the same time. This might indicate that although she can speak faster, she still requires the same amount of time to think before speaking. Another reason for this slight discrepancy could be that the pauses in her post-study abroad sample reflected thinking about the content rather than about language. Since the participants were asked to tell the same story they had previously told in the pre-study abroad data collection, trying to remember all the details they had told before could result in the longer duration of pauses. A qualitative component is needed to confirm or disprove this speculation.

Table 6. Speech Rate (Words per Minute)

<table>
<thead>
<tr>
<th>Participant</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>52.7</td>
<td>53.4</td>
<td>+0.7</td>
</tr>
<tr>
<td>2</td>
<td>59.2</td>
<td>74.5</td>
<td>+15.3</td>
</tr>
<tr>
<td>3</td>
<td>51</td>
<td>68.9</td>
<td>+17.9</td>
</tr>
<tr>
<td>4</td>
<td>48.9</td>
<td>75.9</td>
<td>+27.0</td>
</tr>
</tbody>
</table>
Measure 5: Mean length of runs. The mean length of runs is a measure that represents the average number of syllables uttered by the participant per run, or a period of speech between pauses of 0.5 second or longer. As shown in Table 7, Participant 1 decreased her mean length of runs by 4.79 syllables, which is not surprising considering her lack of gain on most of other measures. The other three participants improved their mean length of runs, with Participant 2 showing the largest gain of 3.07 syllables. These gains demonstrate that learners produced longer speech segments without pausing, which is a sign of an easier speech flow.

Table 7. Mean Length of Runs (Syllables per Run)

<table>
<thead>
<tr>
<th>Participant</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9.44</td>
<td>4.65</td>
<td>−4.79</td>
</tr>
<tr>
<td>2</td>
<td>5.76</td>
<td>8.83</td>
<td>+3.07</td>
</tr>
<tr>
<td>3</td>
<td>5.42</td>
<td>6.38</td>
<td>+0.96</td>
</tr>
<tr>
<td>4</td>
<td>4.12</td>
<td>5.99</td>
<td>+1.87</td>
</tr>
</tbody>
</table>

Accuracy

To analyze changes in students’ accuracy in oral production, we compared the ratios of errors and error-free T-units in their pre- and post-study abroad speech samples. Table 8 demonstrates the changes in participants’ ratio of errors, which was calculated by dividing the total number of errors by the total number of words in the speech sample.

Table 8. Ratio of Errors

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>87</td>
<td>19</td>
<td>21.8%</td>
<td>169</td>
<td>9</td>
<td>5.0%</td>
<td>−16.8%</td>
</tr>
<tr>
<td>2</td>
<td>72</td>
<td>8</td>
<td>11.0%</td>
<td>117</td>
<td>5</td>
<td>4.3%</td>
<td>−6.7%</td>
</tr>
<tr>
<td>3</td>
<td>74</td>
<td>16</td>
<td>21.6%</td>
<td>122</td>
<td>10</td>
<td>8.0%</td>
<td>−13.6%</td>
</tr>
<tr>
<td>4</td>
<td>163</td>
<td>9</td>
<td>5.5%</td>
<td>267</td>
<td>16</td>
<td>5.9%</td>
<td>+0.4%</td>
</tr>
</tbody>
</table>

The results summarized in Table 8 demonstrate that three participants greatly lowered their ratio of errors, while one participant did not exhibit any major change on this measure. Participants 1 and 3 had a higher ratio of errors pre-study abroad than the other two participants, and they also made more relative progress than their peers. At the same time, Participant 4 had a much lower ratio of errors in the pre-study abroad speech sample than the other participants and did not demonstrate any gain in accuracy on this measure. This suggests that students who have lower accuracy prior to study abroad may experience bigger accuracy gains than those whose accuracy is higher in the first place.
In regard to morphosyntactic development, the first sub-question this study sets out to answer is what differences were observed in the occurrence of past-tense morphology in obligatory past contexts pre- and post- study abroad. Figure 1 shows the number of times that the verbs produced by students exhibited past tense morphology in obligatory past tense contexts.

Interestingly, Participant 2 and Participant 4 are the only participants that show gains in past tense morphology production. While only producing nine of the eleven verbs in the preterite or imperfect (vs. the present, indicative, subjunctive, etc.) before going abroad, Participant 2 achieved 100% accuracy post-study abroad. While still not achieving 100% accuracy, Participant 4 gained 4% post-study abroad. Participant 3 showed no gains or losses, utilizing past tense morphology correctly with 100% accuracy. Participant 1 exhibited slight decreases in accuracy, but this could be due in part to the overall increase in verbs produced in the two contexts. She produced nearly twice as many verbs in the past in the post-study abroad setting than in her original attempt before departure. This is evidence that these students had already mastered this feature of the L2 pre-study abroad.

The second sub-question investigates whether the distribution of past-tense morphology follows the predictions of the lexical aspect hypothesis and if there is evidence of development as a consequence of study abroad. Table 9 illustrates the verbs produced in the preterite and the imperfect in pre- and post-study abroad narratives.

<table>
<thead>
<tr>
<th></th>
<th>Pre-Study Abroad</th>
<th>Post-Study Abroad</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Telic</td>
<td>Activity</td>
</tr>
<tr>
<td>Preterite</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>Imperfect</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
According to the Aspect Hypothesis, stative verbs are acquired first in the imperfective aspect and telic verbs in the perfective aspect. However, in both pre- and post-narratives, students exhibited a slight preference for preterite morphology over imperfect morphology in all of the aspectual categories, regardless of whether the context required the preterite or imperfect. These results are consistent with Salaberry (1999), who also found a general overuse of the preterite among his subjects. The author hypothesizes that one explanation for this phenomenon is a primacy effect, because the concept of the preterite is often presented before the concept of the imperfect in instructed settings.

The last sub-question presented in this study aims to explore whether the distribution of past-tense morphology follows the predictions of the Discourse Hypothesis and to examine if there is evidence of development as a consequence of study abroad. Table 10 displays the distribution of verb morphology across grounding in the number of verbs used.

Table 10. Distribution of Past Tense Morphology across Grounding Pre- and Post-Study Abroad

<table>
<thead>
<tr>
<th></th>
<th>Pre-study Abroad</th>
<th>Post-study Abroad</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Background</td>
<td>Foreground</td>
</tr>
<tr>
<td>Preterite</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>Imperfect</td>
<td>18</td>
<td>0</td>
</tr>
</tbody>
</table>

The results indicate that the Discourse Hypothesis is accurate in predicting that the preterite will appear more often in the foreground. However, although the imperfect is predicted to appear more in the background, one can note the large number of preterite verbs present in this context in the post-study abroad discourse. This discovery provides additional evidence that the preterite tends to be overused by L2 classroom learners.

Effects of short-term study abroad on learners’ speaking skills

The results of this study clearly demonstrate that all of the participants benefited from participating in the short-term study abroad program and improved their speaking skills, although some gains were minimal. However, the extent to which learners improved their speaking abilities was different. In particular, Participants 2 and 3 demonstrated an improvement on all the fluency and accuracy measures used in the analysis, while Participants 1 and 4 had more mixed results. In what follows, we analyze each student’s case separately.

Participant 2 demonstrated gains on all of the fluency measures. She increased the number of words she used in her story and her total and actual speaking times. Her phonation–time ratio, or the time she spent speaking relative to the whole speech sample increased by almost 10%. Finally, her speech rate went up by 15.3 words per minute, and the length of run improved as well. This means that not only did this participant speak more and for a longer period of time, she also spoke faster and with fewer pauses. Interestingly, her accuracy did not suffer from this fluency improvement. The ratio of errors went down from 11% to 4.3%, meaning she only made 4.3 errors
per 100 words. In addition, Participant 2 improved her use of past tense: Whereas before study abroad she used a past tense verb in 82% of situations when it was needed, she used it 100% of the time in her post-study abroad speech.

Similar to Participant 2, Participant 3 demonstrated gains on all of the measures of fluency that we used. She experienced a word gain of 48 words, the duration of her actual speech increased by 17 seconds, and her phonation–time ratio, or in other words, the time she spent speaking increased by 5.2%. Her speech rate also increased by 17.9 words per minute, and her mean length of runs increased by 0.96 syllable per run. In addition to fluency development, Participant 3 also made notable improvements on accuracy. The ratio of errors she exhibited decreased from 21.6% pre-study abroad to 8% post-study abroad—a change of 13.6%. In terms of past tense morphology production, she produced verbs in the preterite and imperfect with 100% accuracy both pre- and post-study abroad. An analysis of her errors showed that she was able to improve specifically in grammatical elements like prepositions and adjective–noun gender agreement since the accuracy of her past tense verbs stayed the same at a ceiling effect.

Various fluency measures showed contrasting results for Participant 1’s speaking skill development. On the one hand, she spoke for a longer period of time and increased the number of words in her speech sample. On the other hand, her speech rate increased by 0.7 words per minute, which suggests no real change in how quickly she talked. As for the mean length of runs and the actual speaking time, these measures showed a substantial decline. Taken together, these results show that although Participant 1 did speak more in her post-study abroad narrative, she also paused more often and for longer periods of time. Interestingly, the analysis of Participant 1’s speech accuracy showed a big improvement in the ratio of errors, which declined by 16.8%. While before study abroad she made 21.8 errors per 100 words, after study abroad that number went down to just 5 errors per 100 words. This increase in accuracy may have come at the expense of fluency; she had longer and more frequent pauses to self-monitor her language use more than prior to study abroad. As for the past-tense morphology, Participant 1 exhibited a slight decrease in accuracy, dropping from 100% to 96%. However, she also used more verbs in her post-study abroad narration, which could explain this slight decline.

Participant 4 also had some conflicting results. She exhibited improvements in three of the fluency measures used in the study. She experienced a word gain of 104 words, her speech rate notably increased by 27 words per minute, and the mean length of her runs increased by 1.87 syllables. However, the duration of her actual speech only increased by 2 seconds and the phonation–time ratio decreased slightly by 2.2%. In terms of accuracy, Participant 4 had a slight (0.4%) increase in the ratio of errors, but she was also the student with the lowest ratio of errors in the pre-study abroad samples. At the same time, her past tense morphology showed an improvement: She produced 80% (12 of 15) of the verbs in obligatory past contexts with past tense morphology in her pre-study abroad narrative and 84% (26 of 31) in her post-study abroad sample. Although she only increased 4% in this measure, her post-study abroad narrative revealed almost twice as many verbs in the past tense as in the pre-study abroad narrative, where many of the verbs that were supposed to be in the past tense appeared in the present.
The analysis of learners’ oral narration before and after study abroad demonstrated that they all benefited from the experience. Despite some inconsistencies in two participants’ results, they all showed a remarkable improvement in their speaking skills, which suggests that even short-term study abroad programs can be beneficial and lead to more accurate and fluent speech production. This analysis has also demonstrated that it is important to use various measures of evaluating fluency and accuracy as it allows for a better understanding of the development of these features of speaking skill.

**Pedagogical implications**

In our study, we used measurements of accuracy, fluency, and morphosyntactic development to attempt to answer the question of how learner language changes after participating in a short-term study abroad program. In the following section we first suggest a useful framework for teachers and researchers who are interested in identifying and exploring similar questions related to the changes in language produced by their own students. Second, we highlight the ways in which, through students’ self-analysis of their own discourse, narratives can be used as a pedagogical tool to foster L2 learning.

*Exploratory Practice framework*

When carrying out research related to learner language we suggest using the framework of Exploratory Practice (Allwright, 2001, 2005; Tarone & Swierzbin, 2009) because it guides teachers step-by-step through the process. Allwright’s (2001) framework consists of three parts: (a) contemplation/reflective practice; (b) action for understanding/exploratory practice; and (c) action for change/action research. According to Tarone and Swierzbin (2009), the main goal of Exploratory Practice is to “improve the quality of life in the language classroom for both teachers and learners by expanding their understanding of their learning and teaching processes, and where needed, by acting to improve those processes” (p. 91).

During phase 1, the Contemplation Phase, the teacher identifies a language question or puzzle and thinks about it in relation to what he or she already knows. The teacher’s background knowledge used for comparison could be from his or her previous experience as a teacher/language learner or what he or she learned during a course about language acquisition. Because a teacher’s previous knowledge and experiences may not be enough to answer the question at hand, more action—in the form of data collection—is needed. For example, we noticed that the students who participated in our short-term study abroad program tended to make notable improvements in terms of speaking ability by the end of their time abroad. However, we wondered how exactly students’ speech changed in terms of accuracy or fluency, so we decided we needed more information.

If more information is needed, the teacher or researcher should move into phase 2, the Action for Understanding Phase. During the phase the teacher or researcher collects more information and data about the language phenomenon in a particular context. Tarone and Swierzbin (2009) suggest that data collection for this phase take one of two forms: it can be from either naturally occurring speech samples in the classroom or from speech generated through an activity
that focuses on a particular language form or function. Once data are collected, they can be analyzed using the measures used in the present study or a variety of others, depending on the teacher's/researcher's particular language question. Before carrying out our own study we researched different measures of fluency and accuracy and decided which would be most helpful to us in answering our research questions. We then used narrative activities in a pre-/post-test design, so that we could (a) assess changes in these measures and (b) measure changes in the preterite and imperfect verb forms elicited in Spanish in particular.

In the third stage, Action Research, teachers use the new information to take action and change (or not) their teaching approaches based on what they have discovered from the data. In our case, the students’ improvements in fluency, accuracy, and morphosyntactic development confirmed that our program successfully fostered language development for the students from whom we collected data. However, based on the results we obtained and based on students’ interest in self-analyzing their own discourse, we believe that discourse-elicitation activities can be used for both research purposes and as teaching tools, a point on which we elaborate in the next section.

**Student self-analysis of L2 discourse**

Several researchers have argued that teachers and learners should work together to answer questions about the language learning process and improve classroom instruction (e.g., Allwright & Hanks, 2009). Tarone and Swierzbin (2009), for example, advocate for explicitly training learners how to analyze their own discourse, so that when they have a language question or puzzle, they can generate their own data, observe their own language use, and reflect on the particular issue(s) in question. In this way, through analysis and reflection, narratives can be used not only as a way to observe one’s language use, but to also learn from it.

In training learners to engage in self-reflection, Wiggins (2012) suggests that learners consider six characteristics:

1. **Goal-referenced**: Learners need to consider the goal of the activity and to what extent they achieved it.
2. **Tangible and transparent**: Learners need to find specific examples that support their decision about whether or not they were able to achieve their goal(s).
3. **Timely**: Learners should engage in self-evaluation as soon as possible after producing written or oral discourse.
4. **Ongoing**: Learners need time and opportunities to make adjustments to their discourse in light of what they learn from their analysis.
5. **Consistency**: The more learners are able to engage in self-analysis, the more likely it is to inspire action and change.
6. **Progress toward a goal**: Learners need to set long-term goals and to reflect on whether or not their current work is helping them reach those goals.

While in our study learners were not involved in the analysis of their L2 speaking ability development, we believe that students can be trained to perform
such analyses on their own and, thus, evaluate their own progress. It is especially useful in larger classes where the teacher cannot possibly perform such analysis for all the students on a regular basis. Instead, learners can record samples of their speech at multiple points in the semester and evaluate it using the various measures used in this study, or others. This will allow them to compare their development with their learning goals and identify the areas in which they could improve. According to Brown and Lee (2015), one of the key elements of successful L2 instruction is teaching students how to facilitate their own learning. Through making students more responsible for their learning outcomes, instructors not only allow them to become autonomous learners, but they also enable them to understand their strengths and weaknesses and become more actively involved in the learning process.

The framework of exploratory practice model discussed above provides a strong roadmap for teachers to consult when carrying out research about language learning questions and puzzles present in their own classrooms. Additionally, training students to analyze their own discourse not only helps students to take responsibility for their own learning, but it also helps them track their progress over a particular time period or toward a language proficiency goal. Finally, through analyzing changes in learner language using the methods discussed above, teachers can measure students’ language gains over a semester, a year, or over the course of an entire language program and report them to their administrator.

Conclusion

This study examined Spanish language learners’ fluency, accuracy, and morphosyntactic development during a short-term study abroad. The pre- and post-test design allowed us to directly compare two samples of speech on the same topic, one right before study abroad, and one immediately after it. Based on the data of eight speech samples, we found that there was a slight increase on almost all measures of fluency. The analysis also showed improved accuracy and past-tense verb morphology. As a result of study abroad, not only were learners able to more accurately produce past tense morphology in obligatory past-tense contexts, but they were also able to increase their accuracy in terms of the grounding features of the Discourse Hypothesis. These results show that short-term study abroad is beneficial for learners and that it helps promote the development of L2 speakers’ oral production. Future research on this topic will benefit from having larger numbers of participants to be able to make general conclusions. In addition, a qualitative component could help explain some inconsistencies we encountered in the data.

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Notes

1. Both authors contributed equally to this work.
References


