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Processing of the English *causative-have* Construction by Monolinguals and Brazilian Portuguese – English bilinguals

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CLARICE FERNANDES DOS SANTOS

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To mom

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Great Presence
Everywhere
I thank you
for all your blessings.
I
am yours,
everything
I know I learn from you.

(Alice Walker - Hard Times Require
Furious Dancing)

Abstract

This thesis addressed the off-line processing of two causative constructions, one in Portuguese and another in English, by Brazilian Portuguese (BrP) – English bilinguals and English monolinguals. Following Construction Grammar theory (GOLDBERG, 1995; 2006), the two constructions, which have provision of service as a semantic pole, were analyzed: The Portuguese transitive of subject agent beneficiary (CIRÍACO, 2014a), elaborated by sentences such as "Eu cortei o cabelo" and the English *causative-have*, elaborated by sentences such as "I had my hair cut." Vilela (2009) carried off-line experiments using the English construction with monolinguals and bilinguals. She found that bilinguals rejected sentences with a causative sense, meaning that another person performed the action (subject beneficiary), such as "I cut my hair (at the salon)", more than monolinguals did. This group reported that the SVO use was uncommon, but not impossible in their language. This result is consistent with Goldberg (1995) and inconsistent with the hypothesis that the SVO pattern with a causative meaning is exclusive to Portuguese (CANÇADO, 2010). To contribute to this discussion, the present study aimed at replicating Vilela's findings, through a more refined methodology. English monolinguals and BrP-English bilinguals performed two offline tasks. First, they were asked to read several texts of three sentences and answer, on a scale of 1 to 5, how much they agreed with the interpretation in the third sentence, considering the first two. The first sentence was a context ("Yesterday, Isabela's car broke down"), the second was the target ("She fixed the car") and the third was the interpretation to which participants had to respond ("She fixed the car herself"). The purpose of this experiment was to verify whether the participants were sensitive to the use of the transitive form (SVO) with a causative meaning, which is common in the bilinguals' L1. Besides that, the frequency of the verbs instantiating the construction was controlled: three frequency bands were defined for the verbs used (high, medium and low). In the second task, participants freely completed sentences (*cloze* task) which elicited the meaning of provision of services, which, in English, is prototypically expressed by the *causative-have* construction. The use of the transitive form and the choice of the auxiliary verb in *causative-have* use-cases were also assessed from the second task. Contrary to what was expected from Vilela's study, the first experiment revealed that bilinguals did not express more sensitivity to the use of SVO with causative meaning than monolinguals in any of the frequency bands. The second experiment showed that both bilinguals and monolinguals used transitive sentences when the meaning of provision of services is elicited. As to the use of the prototypical construction of English, the *causative-have*, while bilinguals tended to prefer HAVE, monolinguals opted for GET.

Key-words: bilingualism, construction grammar, causative constructions, causative-have.

Resumo

Esta dissertação abordou o processamento offline de duas construções causativas, uma do Português e outra do inglês, por bilíngues do par português brasileiro (PB) – inglês e monolíngues do inglês. A partir da teoria da Gramática de Construções (GOLDBERG, 1995; 2006), analisamos as construções que têm pólo semântico de prestação de serviços: a transitiva de sujeito agente beneficiário (CIRÍACO, 2014a), do português, elaborada por sentenças como "Eu cortei o cabelo", e a causativa-passiva do inglês, elaborada por sentenças como "I had my hair cut." Vilela (2009) conduziu experimentos de natureza offline com a construção inglesa, com nativos e bilíngues. Ela constatou que os bilíngues rejeitavam sentenças como "I cut my hair (at the salon)", com o sentido causativo de que outra pessoa realizou a ação (sujeito beneficiário), mais do que os monolíngues. Estes reportaram que tal uso era incomum, mas possível em sua língua. Tal resultado é condizente com Goldberg (1995) e incondizente com a hipótese de que o padrão SVO com o sentido de causação é particular do PB (CANÇADO, 2010). Considerando este impasse, o presente estudo teve como objetivo replicar os resultados de Vilela (2009), através de uma metodologia mais rigorosa. Para tal, monolíngues do inglês e bilíngues do par PB-inglês realizaram duas tarefas offline. Primeiro, foi pedido que os participantes lessem textos de três sentenças e respondessem, numa escala de 1 a 5, quanto concordavam com a interpretação da terceira sentença, a partir das outras duas. A primeira sentença era um contexto "Yesterday, Isabela's car broke down", a segunda o alvo propriamente dito "She fixed the car" e a terceira a interpretação a que se devia responder "She fixed the car herself." Com esse experimento, buscou-se verificar se os participantes eram sensíveis ao uso da forma transitiva [SVO] com sentido causativo, que é comum na L1 dos bilíngues. Além disso, a frequência dos verbos que instanciavam a construção foi controlada. Para verificar possível influência deste construto, foram definidas três bandas de frequência para os verbos utilizados: baixa, média e alta. Na segunda tarefa, os participantes completaram livremente (tarefa de cloze) frases que eliciavam o sentido de prestação de serviços, que, no inglês, é expresso prototipicamente pela construção causativa passiva. Os resultados do primeiro experimento revelaram que os bilíngues não foram mais sensíveis que os monolíngues ao uso de SVO com sentido causativo, como foram em Vilela (2009), em nenhuma das frequências. O segundo experimento mostrou que ambos bilíngues e nativos realizam sentenças transitivas quando o sentido da construção de prestação de serviços é eliciado, ainda que os bilíngues o façam com maior frequência. Já no uso da construção canônica do inglês, a causativa passiva, bilíngues e monolíngues variaram na escolha do verbo auxiliar. O primeiro grupo teve preferência pelo verbo HAVE, enquanto o segundo pelo verbo GET.

Palavras-chave: bilinguismo. gramática de construções. construções causativas. causative-have.

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List of abbreviations and acronyms

BrP   Brazilian Portuguese

CG   Construction Grammar

L1   First Language or Native Language

L2   Second Language or Additional Language

SVO   Subject Verb Object

UFMG   Federal University of Minas Gerais

VLT   Vocabulary Levels Test

SUBJ   Subjet

V   Verb

OBJ   Object

AUX   Auxiliary Verb

Syn   Syntax

Sem   Semantics

Prag   Pragmatics

Contents

1 Introduction

1.1 Initial Considerations

This study addresses two related causative constructions in different languages, one in Brazilian Portuguese (BrP), as described in Construction Grammar terms by Ciríaco (2014a), and one in English, as studied by Vilela (2009). They are similar in meaning, but different in what concerns (morphosyntactic) form, as it can be seen in (1) and (2).

(1) I had my hair cut.

(2) *Eu cortei meu cabelo.* (literally "I cut my hair")

This difference in form might pose difficulties for the Brazilian (BrP) Portuguese speakers to learn (1) along with theoretical issues related to its teaching and language processing, which will be addressed in the next chapters.

1.2 Bilingualism

The present work investigated the language perception of bilingual and monolingual speakers of English and Portuguese. Thus, it is important to define what concept of bilingualism is used here. Following Grosjean (2010) and Cook (1992; 2007), we understand bilinguals as those speakers who use two languages regularly, in any context of life, and monolinguals as those who only use one. Bilingualism is not, however, a categorical concept and it is necessary to define what type of bilingualism is being addressed. For instance, one can be a bilingual *primero*, who learned both languages as a child, or a late bilingual, who learned the additional language after puberty. The latter was the subject of our research.

Additionally, bilinguals can be immersed in the language and culture of a given language, which means that they live in the country where the language is spoken. In contrast, they can be non-immersed, which means they live somewhere where the language in question is not the one widely spoken, although they use it in some context of their life (condition to be a bilingual). Therefore, every bilingual is immersed in at least one of their languages. In this study, Brazilian Portuguese-English Bilinguals were non-immersed in an English speaking community.

Along with these, and most importantly, there is the concept of language dominance. Generally, a bilingual uses one of their languages more than the other in a given context of their life. For instance, someone may use a language only for work and another one at home, in a context where the second is never used for work, and the other way around. This person would be a bilingual, but their knowledge of their two languages would not be the same. Each language would be specialized in one context of life. This would mean that this speaker is dominant in one language for a given context of life and dominant in the other for other contexts. This scenario is the most common one, and this leads to the conclusion that a bilingual – or multilingual, for there can be a number of languages for a number of contexts – is not two monolinguals in one mind (GROS-JEAN, 1982). Hence, a "balanced" bilingual, one who uses the two languages at the same proportion in every language context, is highly doubtful to exist.

At this point, dominance and immersion may seem to overlap, because they generally do, but one does not imply the other. For example, a person can live in Brazil, and thus be immersed in the BrP community of speakers, and at the same time work in at international company which uses English for all the staff interactions and the work itself. This person would consequently be dominant in English for work purposes. The opposite happens when people move abroad to work, are immersed in another language and culture, while still using their first language (L1) to communicate at home, that is, their dominance for domestic purposes is still their L1, although they are immersed in their second of additional language (L2).

In this research, for the bilingual group, the L1 is Portuguese and the L2 is English. All the intricacies of this and the other groups are explained in Chapter 3 – Methods.

1.3   Contextualization and Objectives

One of the challenges for bilinguals is accommodating the knowledge of the L1 constructions to that of the L2. Learning the additional language's constructions, which are the pairings of form and meaning in a language (GOLDBERG, 1995), may posit difficulties for the learners and processing consequences (WASSERSCHEIDT, 2014). In that sense, bilinguals' apprehension of their L2 constructions has been a fertile field of the study of language processing (PENZIN, 2018; SOUZA; OLIVEIRA, 2017; OLIVEIRA, 2016) and the present work addresses similar issues. Following the Construction Grammar perspective, this thesis presents a contrasting analysis of two semantically equivalent causative constructions, a Portuguese one, exemplified previously in (2) and an English one, exemplified in (1).

The two constructions differ slightly from one another on the syntactic level but

seem to have the same semantic-pragmatic restriction for instantiation, that of provision of services, as described in Portuguese by Ciríaco (2014a). Both are the object of this study, in which they are detailed and compared in relation to their apprehension by bilinguals and monolinguals.

The analysis done here is based on the theoretical assumptions of Construction Grammar (GOLDBERG, 1995) and on the contrastive studies between romance languages and the English language proposed by Boas and Gonzálvez-García (2014). The study of Vilela (2009), which investigated the learning of the English construction by Brazilian late bilinguals, also guides the analysis proposed.

By describing the two constructions, the BrP construction was compared to its counterpart in English. This comparison covered the syntactic, semantic and pragmatic aspects. Also, this was done focusing on the learning of the second by bilingual speakers, in comprehension and production. Its syntax is pointed as the most difficult factor on the satisfactory apprehension of *causative-have* by bilinguals. However, this difficulty is not due to its own form, but that of its equivalent in Portuguese, the transitive construction of agent/beneficiary subject.

Vilela (2009) found that BrP bilinguals were more sensitive than monolinguals to the use of a causative morphosyntactic form (3) with a beneficiary (4) interpretation associated to the participant in subject [S] position. That is, bilinguals reacted to the "transgression" of the construction (the use of the [SVO] form): they reported that sentences such as (3) could only have the agent subject meaning. While monolinguals were not as reactive to it, they reported finding this use unusual but not impossible. Hence, this work aims at replicating the results of Vilela (2009) and casting light at the network of causative constructions with the meaning of *provision of services* in BrP and in English, as illustrated by instances (1) and (2).

(3) Subject Verb Object

(4) I cut my hair at the salon.

1.4 Research Objectives and Hypotheses

The objectives of this work are to:

(a) describe the two causative constructions under study, one in English and the other in Portuguese, following the analysis of Ciríaco (2014a) especially in what concerns their semantics;

(b) investigate if bilinguals are more sensitive than monolinguals to the use of a transitive form instead of the prototypical [Subject AUX Object Verb] for the *causative-have* construction;

(c) check if the frequency of the verb that instantiates the construction affects the comprehension of the pattern;

(d) contrast the elicited production of the construction of bilinguals and monolinguals.

The hypotheses are:

(a) the *causative-have* construction would be an extension of the causative construction;

(b) bilinguals would be more sensitive than monolinguals to the use of the transitive form of the construction, as they were in Vilela's (2009) study;

(c) highly frequent verbs would be more acceptable in the transitive form by both groups;

(d) bilinguals would produce more transitive forms and natives would produce it marginally.

1.5   Thesis Organization

This thesis is divided into 5 chapters. This chapter is the introduction with the initial considerations, contextualization, objectives and hypotheses. Chapter 2 presents the theoretical background of this study: Bilingualism, Frequency Effects, Construction Grammar (CG), and the two causative constructions under study – one in BrP and other in English, as described by Ciríaco (2014a) and Vilela (2009) respectively. After that, chapter 3 describes the methods of this study, the experiments' design and the data collection. The results and the discussion are presented in Chapter 4. The limitations of this study and the perspective for future research are also found in this chapter. Finally, the Conclusion briefly summarizes the study.

2 Theoretical Background

The theoretical background of the present study is inserted in the usage-based model of grammar (BYBEE, 2012). For usage-based theories, the complexity of language emerges not as a result of language-specific properties but through the interaction of cognition and use. Whether the focus is processing, acquisition, or change, it is assumed that knowledge of a language is based in knowledge of actual usage and generalizations emerge over meaning and function (LANGACKER, 2008; TOMASELLO, 2005; GOLDBERG, 1995; 2006; BYBEE, 2012). Therefore, this chapter addresses: language processing by the bilingual mind as understood in usage-based models (Section 2.1), frequency effects, an important feature for language processing (Section 2.2), and Construction Grammar, a theory of grammar strongly committed to the usage-based premises (Section 2.3). In Sections 2.4 and 2.5, the causative constructions under study are reviewed following the works of Ciríaco (2014a) and Vilela (2009). Section 2.6 briefly presents Goldberg's analysis of the transitive construction in English, when associated to the function of provision of services, as a member of the *caused-motion* construction. Lastly, Section 2.7 makes a comparison between the causative constructions of BrP and English under examination and tries to account for the cross linguistic generalizations observed, bringing all the theoretical background together.

2.1 Bilingualism and language processing

Bilingualism is a worldwide reality and there are many reasons why it is a relevant field of study. For instance, there has been a discussion over a possible cognitive advantage brought by bilingualism (see Bialystok et al. (2009) for a review). Although the studies are not conclusive, this alleged advantage has had consequences to the teaching of second language, as well as the need of speaking a second language for work purposes. Consequently, there is a growing number of bilingual schools in Brazil which teach in both Portuguese and English. Hence, it is also important to address bilingualism in order to create a more effective pedagogical practice.

Notwithstanding, the main reason to address bilingualism is that it can give insight into linguistic processing in general, which is the focus of Psycholinguistics. This field of Linguistics is concerned with the mechanisms of the mental reality of language, and this investigation is not easily done because the mental reality cannot be directly accessed. Besides that, linguistic knowledge is known and used implicitly by mature speakers, and

both comprehension and production very rarely present errors[1]. Considering that, one of the keys to understanding language processing is studying the linguistic behaviour of non-mature speakers, such as children acquiring first language (CLARK, 2015), aphasia patients (RAPP; FISCHER-BAUM, 2014) and bilinguals, group upon which our study is centered.

The disfluencies in their language comprehension and production can shed light into the functioning of the linguistic architecture as a whole. Thus, the idea is that, by investigating the absence (or deficiency) present in non-mature speakers processing, it is possible to have cues into the understanding of language as a whole.

The study of bilingualism is even more relevant, because it is now accepted that bilinguals are not two monolinguals in one mind (GROSJEAN, 1982). Their linguistic behaviour and processing are not deficient, but rather powerful, as they possess knowledge of two languages. And although they can 'function' in a monolingual mode at their will, their knowledge of each language is not so separate, as previously agreed (HART-SUIKER; PICKERING; VELTKAMP, 2004). Grosjean (1982) presents evidence from *code-switching* and language transfer to demonstrate that.

However, conceptualization does not happen in the same manner for these groups. It is more automatic for mature speakers, whereas it is costly for non-mature speakers such as bilinguals processing an L2 (especially low proficiency ones). This means that their knowledge is not as automatic, and it takes more time for them to process language, be it in the comprehension or in the production.

In that sense, comparing[2] bilinguals and monolinguals responses in a task can show the difference between a mature and a non-mature speaker, concerning any aspect of language (phonology, lexicon, semantics, syntax). In this thesis, we focus on the late bilinguals of the pair Brazilian Portuguese (BrP) - English. They were compared to monolinguals in relation to their processing and production of the *causative-have* construction in English, which is described in detail in Section 2.3.

Therefore, as the *causative-have* construction is a clausal pattern, it is important to make it clear that we are concerned with *sentence processing*. As all of the other facets of language, sentence processing cannot be directly observed. Thus, tasks that inspect

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[1] According to Ellis (2008), errors are deviations from the norm due to lack of knowledge. Mistakes, on the contrary, are deviations caused by other factors, such as lack of attention. People do commit linguistic mistakes all the time, in every aspect of language (phonological, lexical, grammatical), but they are almost always retrieved and corrected by themselves shortly after and do not affect comprehension.

[2] Although comparing monolinguals and bilinguals is relevant, the study of bilingualism is by no means restricted to this contrast. The issue of bilingualism is a research field of its own, and the studies often have a wide variety of other independent variables, such as proficiency (GUIMARÃES, 2018), immersion (OLIVEIRA, 2016), working memory capacity (FONTOURA, 2018) and frequency (this study). Here we highlight the benefits of the comparison because that is one of the predictor variables of our study, following Vilela (2009).

the linguistic behaviour are conducted. These tasks can be of two types, *on-line* or *off-line* (DERWING; ALMEIDA, 2005). *On-line* techniques, also called *chronometric*, assess processing as it comes about, on-the-fly. Examples of on-line tasks are *self-paced reading* and *naming* tasks, which give measures of reaction time (in miliseconds). In addition, most of the reading tasks performed with eye-tracking equipment also inform how a speaker processes language in real time (GODFROID; WINKE, 2015).

Conversely, *off-line* tasks, also called *non-chronometric* tasks, are the contrary of that. The measures they give, such as rating numbers, do not allow assessment of how participants incrementally process a given word or sentence, because this rating is done after the reading. In this moment, the reading comprehension is done, and that task requires the participant to recover it and then report it. This is considerably different from perceiving a difficulty of processing in longer reaction times, in a given fragment of a *self-paced reading* task. Examples of *off-line* tasks are *acceptability judgment* and *cloze* tasks. In sum, the difference between both, according to Fernández and Souza (2016), is that, in the first, we have access to processing in real time, and, in the second, to processing that happens after the primary linguistic knowledge was used, the performance mechanisms.

What is normally understood by the term language **processing** is what on-line experiments inform: incremental processing, real time reaction, such as studies with naming tasks (COSTA; CARAMAZZA; SEBASTIAN-GALLES, 2000; COSTA; SANTESTEBAN, 2004), and visual moving window tasks (HEREDIA; LÓPEZ, et al., 2016). Additionally, there is a great body of work dealing with sentence processing, which has on-line processing as a given. (HEREDIA; ALTARRIBA; CIÉSLIKA, 2016).

Nevertheless, in this study we employed two *off-line* techniques: a sentence interpretation rating and a *cloze* task. According to Derwing and Almeida (2005), non-chronometric tasks such as these have the advantage of being practical and relatively easy to perform and of allowing the examination of issues that cannot be evaluated through chronometric tasks. For instance, reaction times *per se* do not inform semantic role assignment (which is one of the purposes of this study). An interpretation task, which is off-line by nature, can do that.

But there are also disadvantages of conducting off-line tasks. One pointed out by Derwing and Almeida (2005) is the fact that they normally tap into meta-linguistic knowledge and the participants may be aware of what is being investigated, which is not at all intended. In an on-line task such as *self-paced reading*, for instance, the participant reads a sentence in their natural pace, instead of just rating it as more or less grammatical/acceptable[3]. Another disadvantage that we call attention to is that off-line techniques

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[3]   Of course, both self-paced reading and rating tasks have many other characteristics. Rating tasks, for example, can be manipulated in order to avoid this disadvantage, with rating category names other than 'grammatical/ungrammatical' and 'acceptable/unacceptable.'

cannot clearly tap into the speaker's implicit knowledge. Participants perform the task in such a way, but the kind of knowledge they used to do so – implicit or explicit – is not something an off-line task can inform. This is mainly due to its temporal features, because as participants have a greater time window available to do a task, they can resort to explicit representations (ELLIS et al., 2009; FERNÁNDEZ; SOUZA, 2016). Having said that, off-line techniques are useful and the disadvantages can be worked out.

Both types of tasks, on-line and off-line, are necessary and informative. However, Derwing and Almeida (2005) remind us that the task itself is an experimental factor. The task might model the results, so that a given task A does not lead to the same answer of a given task B, concerning the same object of study. Thus it is more than desirable that a research question is answered through multiple experimental designs, or at least more than one. Such was the intent of this study, which addresses the same object of the study of Vilela (2009) with a different methodology. All the details of the off-line experiments conducted here are exposed in Chapter 3 while Chapter 4 presents a discussion of how the difference in the designs might have affected their results. From now on, when processing is mentioned, it refers to off-line processing, unless otherwise noted.

An important assumption for this study is that constructions of an L2 are often difficult to learn for bilinguals. Considering this, one important clarification needs to be made. Linguistic difficulty does not entail psycholinguistic (or processing) difficulty, and neither does the opposite. Let us have as an example the inflectional morpheme of regular past tense in English, -*ed*. This morphological pattern is linguistically simple: add -*ed* to the end of regular verbs in order to have the past form (and other small adjustments). Language learners can easily recall this rule. But data from corpora and bilingual research show that it is not at all easily acquired (JIANG, 2004; FONTOURA, 2018). Thus, for inflectional morphemes there seems to be the case of a linguistic easiness paired with a processing difficulty.

The opposite can also happen, when a given structure is linguistically difficult but not as hard for bilinguals to acquire or process. Some phonemes of English are good examples of both situations, in relation to their acquisition by BrP L1 speakers. The /θ/, of words such as *thing*, is not present as a phoneme in BrP, nonetheless, bilinguals have no difficulty in processing it, when given some training. On the other hand, the sounds /i/, of *see*, and /ɪ/, of *sit*, which although being different phonemes in English are allophones in BrP and therefore would be considered relatively easy to acquire from a theoretical point of view, are very difficult to process from a psycholinguistic perspective. In this case, bilinguals, even highly proficient ones, have a great deal of difficulty in acquiring these phonemes. This goes to show that when using the term **difficulty** in psycholinguistics, it has to be based on **language processing difficulty**, evidenced by experimental data.

Another aspect of natural languages which models language processing is fre-

quency, be it in comprehension or production. This strongly affects bilingualism as well and will be addressed in Section 2.2.

2.2 Frequency effects

Usage-based linguistic theories, such as Construction Grammar (CG), have frequency as an important construct. These theories have an holistic view of grammar, which do not impose syntax over the other aspects of language. Instead, the 'parts' of grammar are normally understood as having the same status. Semantics and pragmatics, usually relegated to a peripheral place, are widely studied (more on that, concerning CG specifically, is found in Section 2.3). In that sense, the frequency in which linguistic patterns appear in language is a key point in those theories, one to be taken into consideration when carrying research into language processing.

Frequency is often used as evidence for these models. Linguistic behaviour is, then, explained not in terms of innate mechanisms, but by speakers' abilities to learn the distributional regularities of language (GOLDBERG, 2006; MACDONALD, 2015). Speakers categorize every instance of language use they encounter and make predictions about it. The more a word, such as 'pay', is heard being used with another one, such as 'attention', the more these two are expected to be found together. The expression 'pay attention' is then reinforced every time it is used. This example demonstrates that the 'feeling' that some words go better together is due to statistical learning that every language speaker has. In the same way, clausal patterns, as the one studied here, are learned and, consequently, used, independently from the verbs themselves (see Section 2.3).

Models of linguistic encoding (production) and decoding (comprehension), such as the seminal work of Levelt, Roelofs and Meyer (1999), take frequency as an important factor. In sum, it is considered that when a speaker is preparing a message, they tend to use whatever words and structures are more frequent in their repertoire, or have been used recently. This means that they are more salient for them, because they are frequently or recently used, and thus can be easily retrieved. In the same way, when trying to decode a message, speakers use their statistical knowledge about language and employ more words that are highly frequent, and less words that are more infrequent (MANNING; SCHÜTZE, 2003). Thus, the frequency of structures used to convey a message not only affects, but also models, language production and comprehension.

Although the statistical learning of frequency in language use is unconscious and automatic, for study purposes it is not evident. We cannot intuitively tell how frequent words and structures are (not completely accurately, at least), thus we resort to large data sets of real language use, called *corpora* (singular *corpus)* (MANNING; SCHÜTZE,

2003). Based on the frequency of a given word on a given corpus, we have an idea of its usage frequency in a given community, in a specific context. Therefore, our study, as many others in this field, relies on the word frequency of a corpus. As this study was done with American English speakers, we used the *Contemporary Corpus of American English* (DAVIES, 2008-), and more details about this choice are found in Chapter 3.

We have pointed out that every language speaker has statistical knowledge of the distribution of regularities of their language, but for bilinguals this is different. As bilinguals and monolinguals process language differently, they are also differently affected by frequency in language. Because bilinguals have two language repertoires, and the representation of each of them is not separate (HARTSUIKER; PICKERING; VELTKAMP, 2004), the frequency of a construction in one of the languages affects the processing of the same construction in the other. Guimarães (2016) study demonstrates that. The author studied how BrP-English bilinguals processed the English passive construction and found that they produce more instances of the passive than their BrP monolingual counterparts, even in priming contexts. As corpora consultation informs that this construction is much more frequent in English than it is in BrP, bilinguals seemed to have been affected by the distribution of of their second language and ignored that of the L2's.

Frequency effects are thus highly relevant in bilingual studies, because they are particular for this type of speaker. For this reason, models of bilingual language production and comprehension take frequency into consideration, such as the BIA+ and others, reviewed by Guimarães (2016). They do so in a way that can account for the fact that bilinguals have the two languages competing in their minds.

As we have seen, frequency affects how monolinguals and bilinguals process language, both in production and comprehension. For that reason, frequency was used as a predictor factor in our analysis of how BrP-English bilinguals and English monolinguals process the causative constructions under study. Because usage-based theories are the ones which have this as a central point of the organization of languages, they are used in this work. Our study is thus based on Construction Grammar, which is described in Section 2.3.

2.3   Construction Grammar

In this section we begin by reviewing the main assumptions of Construction Grammar, focusing on the most relevant ones for the description of the constructions of argument structure here analyzed. Next, section 2.4 describes the Brazilian Portuguese construction and section 2.5 describes the English one and situates it inside the causative constructions of the language.

Construction Grammar (CG) started with Fillmore (1988), but the concept of construction, according to Croft (2007), dates back to the traditional grammar and evolved in constructionist approaches to become "a model of representation of grammatical knowledge as a whole" (CROFT, 2007, p. 464). According to Goldberg (1995), constructions, the basic units of grammar, are pairings of form and meaning, which can be morphemes, such as the morpheme *un-* in the word *unhappy*; idiomatic expressions, such as the well studied *let alone* addressed by Fillmore, Kay and O'Connor (1988); and also clausal patterns, such as the *passive* construction. Clausal patterns are called argument structure constructions by Goldberg (1995). They are the focus of the author and of this analysis. Table 1 shows examples of constructions of different types and complexities, in the English and the Portuguese[4] languages.[5]

All types of constructions are symbolic pairings of form (syntax, morphology, phonology) and meaning (semantics, pragmatics, discourse). Meaning is, thus, an important part of grammatical description in all its aspects, be it lexical, contextual, functional or cognitive. As Goldberg (2006) highlights :

> "constructionist approaches generally emphasize that languages are learned – that they are CONSTRUCTED on the basis of the input together with general cognitive, pragmatic, and processing constraints." (GOLDBERG, 2006, p. 3)

The author explains that constructionist approaches have the same cognitive, mentalist foundation of the generative approach (CHOMSKY, 1965). They agree that:

a) language is a cognitive (mental) system;

b) there is a way to combine structures and create new utterances;

c) a sophisticated theory of language is necessary.

But they differ tremendously, because Construction Grammar:

a) understands that language can be best accounted for by the study of formal structures in association with their semantic or discourse functions;

b) does not posit a number of layers of abstractness;

c) believes that learners can inductively learn by general cognitive processes (not that they must be hard-wired with language-specific knowledge).

As a consequence, constructionist approaches have meaning as a fundamental part of grammar, which is quite the opposite for generative approaches, in which semantics only

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[4] The ditransitive construction (example 7) does not canonically exist in Portuguese. However, its use was attested by sociolinguistic studies of the BrP spoken in Minas Gerais and Bahia (SCHER, 1996; LUCCHESI; MELLO, 2009). Given its existence in English, Penzin (2018) investigated the acceptance of the construction in BrP by Brazilian bilinguals and monolinguals.

[5] Where N stands for a noun, V for a verb, X and Y for phrases, Subj for a subject, Obj for an object, Aux for auxiliary verb. Additionally, VPpp stands for a verbal phrase followed by a prepositional phrase, which can be a PPby, a by phrase.

Table 1 – Example of constructions of varying complexities in English

Type	Form and *Examples*
1. Word – English	*tentacle*, *gangster*, *the*
— Portuguese	*tentáculo*, *gangster*, *o*, *a*, *os*, *as*
2. Word (partially filled)	post-N, V-ing: *post-war*, *working*
— Portuguese	pós-N, V-ão: *pós-guerra*, *graduação*
3. Complex word	*textbook*, *drive-in*
— Portuguese	*livro-texto*, *guarda-roupa*
4. Idiom (filled)	*spill the beans*
— Portuguese	*dar com a língua nos dentes*
5. Idiom (partially filled)	believe <one's> ears/eyes
— Portuguese	acreditar em <seus> próprios olhos
6. Conditional	The Xer the Yer: *The more you watch the less you know*
— Portuguese	Quanto mais X, mais X: *Quanto mais eu leio, mais eu me confundo*
7. Ditransitive	Subj V Obj1 Obj2: *She gave him a kiss*;
— Portuguese	Subj V Obj1 Obj2: *Ela deu ele um beijo.*
8. Passive	Subj Aux VPpp (PPby): *The cell phone tower was struck by lightning.*
— Portuguese	Subj aux VPpp (PP por) *O bolo foi feito pela menina.*
9. **Causative-have**	Subj Aux Obj Past participle:*Felipe had his beard trimmed (at the barber shop).*
— Portuguese	Subj V Obj: *Felipe fez a barba* (na barbearia).

fills in the slots left after syntactic rules are applied to a given utterance. Because of that, linguistic phenomena that are clearly driven by semantics are treated as exceptions on generative approaches. CG, on the contrary, uses these exceptions as the basis for the theory. If the apparent irregularities of language can be explained, the clear regularities will follow (CROFT, 2007).

Clausal patterns are a subclass of constructions called argument structure constructions by Goldberg. They are the focus of the author and our analysis. According to Goldberg (1995), argument structure constructions may be named as such for also being pairings of form and meaning. Although they are on the sentence level and have a more schematic pair-meaning relation than that of a word, these patterns can be analyzed and

their study can improve the grammatical description, by increasing its power of generalization. The author exemplifies this fact by showing that, frequently, a verb appears in several different syntactic patterns, as seen both in Portuguese and in English, with the verb have and its translation *ter* in Portuguese, in examples (5) to (13).

(5) I <u>have</u> a small house in the countryside.

(6) The teacher <u>had</u> the students write an essay.

(7) We always <u>have</u> lunch at midday.

(8) **She <u>had</u> her hair cut yesterday**.

(9) *Eu <u>tenho</u> uma casa no campo.* (I have a house in the countryside.)

(10) *Adolescentes <u>têm</u> muita fome.* (Teens are always hungry.)

(11) *Ele <u>tem</u> andado muito cabisbaixo!* (He's been down lately!)

(12) *Minha filha já <u>tem</u> 5 anos.* (My daughter is five already.)

(13) ***Ela <u>teve</u> o cabelo cortado ontem.*** (She had the hair cut yesterday.)

As Goldberg (1995) explains, the constructionist perspective aids in accounting for the many senses of the verb *have*. To understand the various uses of HAVE – and its Portuguese counterpart TER – without making use of the concept of construction, it is necessary to posit different senses for the verb, causing an improper proliferation of senses. If the verb itself carries the syntactic information, as formal semantics explains it (LEVIN, 1993), many senses of HAVE would be necessary to explain the Portuguese and English sentences on (5) to (13). For instance, the sense of the verb TER in (9) is not a different one from that of the same verb on (11). Where traditional grammar would say that in the second, TER is "behaving" as an auxiliary, changing its function, construction Grammar would say that the same verb, with whatever meaning it has, is *instantiating* different constructions in the two examples.

As can be seen, the notion of construction allows for a parsimonious description which avoids an improper proliferation of senses. What changes in each case of examples (5) to (13) is the **construction**. For each case, it is a different one, only instantiated by the same verb HAVE (TER in Portuguese). Thus, to understand that several verbs can instantiate a construction, without changing their sense, enables a lean and functional analysis.

The differences aforementioned between CG and generative approaches, along with the evidences pointed out by Goldberg that constructions exist independently from verbs

in particular and are an essential theoretical entity for understanding grammar, (GOLD-BERG, 1995) lead us to choose CG to explain our object of study. Besides, according to Boas and Gonzálvez-García (2014), it is valuable to compare constructions among languages. The comparison is especially important between the ones of the English language, which have been widely studied (GOLDBERG, 1995; 2006; BROCCIAS, 2013; BOOIJ, 2013), and the ones of romance languages, which are so scarcely studied under this perspective (nonetheless see Miranda and Salomão (2009), Oliveira (2016) and Penzin (2018) for examples).

Therefore, this work presents a Brazilian Portuguese (BrP) construction and its counterpart in English, assuming that this is also a construction of the English language (see Section 2.5). Section 2.4 presents the construction of the Portuguese language, example (2), while its English counterpart, example (8), is presented in Section 2.5. Both constructions are here described following Ciríaco (2014a), especially in their semantic aspects.

2.4 The BrP causative construction: *transitive construction of agent – beneficiary subject* Ciríaco (2014a)

The Portuguese language has a very particular manner of expressing causation in some specific contexts and it is done with the *transitive construction of agent/beneficiary subject* (TCABS), described before in Ciríaco (2014a). In (14), there is an example of the construction, instantiated by the verb *cut*.

(14) *Isabela cortou o cabelo.* ("Isabela cut the hair")

Its particularity comes from the fact that, in this construction, the subject is the beneficiary of the action, in this case 'Isabela'. This can be attested by the acceptability of sentence (15), in which the adjunct 'Nelci' is the agent of the action of CUT and does not necessarily express company.

(15) *Isabela cortou o cabelo com Nelci.* ("Isabela cut the hair with Nelci")

As to its form, the construction is relatively simple, following the most common order in agentive languages: Subject-Verb-Object [SVO] (LANGACKER, 2008). It is, thus, related to the *transitive* construction, which, by the same token, is probably the most frequent construction in those languages, which is the case of BrP (CIRÍACO, 2014b).

According to Ciríaco (2014a), the construction assigns yet the semantic role of indirect agent to the subject. Example (15) means that Isabela asked Nelci to cut her hair,

and, generally, paid for this service. That is the core of the semantic pole of this construction: the provision of services. Examples (16) to (19), adapted from Ciríaco (2014a), show that the construction only allows instances with the meaning of provision of services, in which there is a beneficiary, and reject others[6] in which it does not exist, or denotes, in fact, a "maleficiary" (CIRÍACO, 2014a):

(16) *Clemilda fez luzes no cabelo (com a Nelci).* (Clemilda highlighted her hair [with Nelci]).[7]

(17) *Minha cunhada fez clareamento nos dentes (com a dentista).* (My sister-in-law whitened her teeth [with the dentist].)

(18) **Lucas colou o adesivo (com o Roy).* (Lucas sticked the sticker [with Roy].)

(19) **Maria entupiu a pia (com o marido de aluguel).* (Maria clogged the sink [with the plumber])

Ciríaco (2014a) revisited the lexico-semantic analysis of Cançado (2010) concerning the verbs that allow the phrasal pattern of (14), in which the Subject has the role of beneficiary and a certain degree of agency. Ciríaco (2014a), however, demonstrates how the lexico-semantic criteria are insufficient to describe the structure, because this linguistic pattern does not depend on the verbs themselves.

The author explains that all the verbs analyzed that are compatible with construction are verbs of causation (CIRÍACO, 2014a), but highlights that not all the verbs of causation are compatible with it. Thus, Ciríaco (2014a) proposes to add semantic-pragmatic aspects to the analysis, that is, to approach it under the constructionist perspective (GOLDBERG, 1995). A symbolic link connects the form of the construction (explained above) to its semantic pole, that of provision of services: a person hires, or requests, a service to another, the agent. Ciríaco (2014a) then proposed the scheme presented in Figure 1 as the representation of the construction.

This pattern is said to be exclusive to Portuguese according to Cançado (2010). By comparing the BrP construction (20) to the form of its semantically equivalent in other languages, such as French (21), Italian (22), and English (23), we may be led to agree with the author, but a close analysis shows that the construction is not exclusive to BrP. In those languages, in order to (canonically) indicate that the Subject is the beneficiary

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[6] Ungrammatical sentences, meaning that they are not well accepted by mature speakers, are here represented with asterisks (*).

[7] We put the adjunct in brackets to symbolize the (agent) beneficiary interpretation, where the adjunct can appear or not. We acknowledge that the realization of the adjunct of place may induce this interpretation. In this perspective, the so-called adjunct is an independent construction, with its form and meaning, which normally is related to the causative construction here described and, thus, appears beside it. This is not, however, on the scope of this work.

Sem/Prag	Provision of service	{ Ind. Agent, Benef., Patient}	
R.: action, causation	PRED.	{part1,	part2}
Syntax	V	Subject	Object
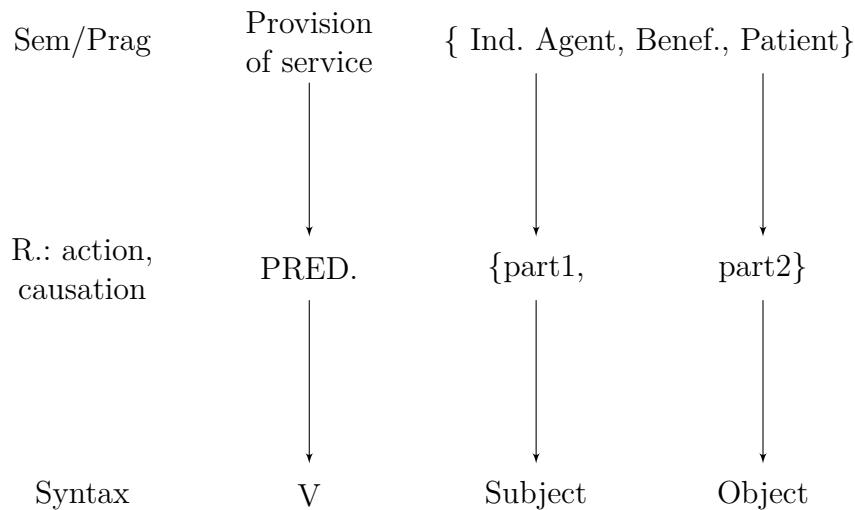
Figure 1 – Transitive construction of agent-beneficiary subject (CIRÍACO, 2014a)

of the action, there is normally an overt syntactic mark: the verb *faire* plus infinitive, in French; the verb *avere* plus participle, in Italian and *have* plus past participle in English. Nevertheless, there is clear indication that this pattern is not so strict in any of these languages, which seem to 'accept' an [SVO] form at least for informal interactions. Hence, this peculiarity is questionable. Such is the case of English, which will be described in Section 2.6.

(20) *Eu cortei o cabelo.*

(21) *Je me suis <u>fait</u> couper les cheveux.*

(22) *Mi <u>hanno</u> tagliato i capelli.*

(23) I <u>had</u> my hair cut.

As a means of comparison, let us examine how Milanio (2014) studied the pattern under the minimalist program. She called it synthetic causative of BrP, which can be illustrated by examples (24), (25) and (26). According to the author, synthetic causatives have transitive verbs with a causative meaning.

(24) *Eu cortei o cabelo.* ("I cut the hair")

(25) *Selma consertou o carro.* ("Selma fixed the car")

(26) *Bianca operou o nariz.* ("Bianca operated the nose")

To explain this pattern, the author posits an underlying form that is overtly causative. Aside from the verb that expresses the action (*cortar*, *consertar* or *operar*, in the examples)

this form has the verb *fazer* (do), which can imply causation in BrP (similarly to *have* in English, but it is not used in this BrP pattern). Thus, the examples above would have the following underlying representation, respectively:

(27) *Eu fiz alguém cortar meu cabelo.* ("I <u>had</u> someone cut my hair")

(28) *Selma fez alguém consertar seu carro.* ("Selma <u>had</u> someone fix her car")

(29) *Bianca fez alguém operar seu nariz.* ("Bianca <u>had</u> someone operate her nose")

Furthermore, there is a misconception and a redundancy in Milanio's (2014) terminology: "synthetic causatives." First, taking a syntactic point of view, the author attempts to describe a semantic concept – causative – as "synthetic" based on syntactic grounds, when in fact, a semantic concept must be described semantically. It is the structure which is synthetic, that is, the clausal pattern, not the notion of causation. In fact, every causation is, by definition, a complex notion, as it involves two subevents - a 'causer' and a 'causee' (SHIBATANI, 1985; SHIBATANI; PARDESHI, 2002; LEVIN; RAPPAPORT-HOVAV, 2005; RAPPAPORT-HOVAV; LEVIN, 2010).

Second, taking a lexical point of view of the linguistic encoding, languages are what Rappaport-Hovav and Levin (2010) name "many-to-one". This means that there are many meanings to one lexical item or structure. In that sense, considering that every causative verb concentrates the complex cognitive notion of causation, every causative verb is "synthetic" by nature, as it encodes a complex notion. It is, thus, a redundancy to name a causative synthetic from the lexical point of view.

Formalist approaches to grammar, such as the generative, very often define differences between patterns as 'alternations' or 'transformations' (passive), for example. They also posit abstract representations, such as the aforementioned, which do not surface in the production, but are supposedly in an underlying layer of linguistic representation. These notions do not have a place in CG. Instead, every pattern is considered a construction of its own, not an alternative to another, because every change in syntax implies a change in semantics (GOLDBERG, 1995). That means that when a speaker utters a sentence such as (24), they mean a different message than when they utter the sentence in (27).

2.5 The English causative construction: *causative-have* construction Vilela (2009)

Vilela (2009) analyzed the English phrasal pattern, which she named *causative-have* and *passive-causative* exemplified below:

(30) Bella had her hair cut.

(31) Barbara had her nails done.

(32) Tony had the car washed.

(33) Bill had his house remodeled.

Vilela (2009) reported its definition from prescriptive grammar books of English as a second language and from textbooks and noticed that there were few accounts of this linguistic pattern. The absence of this construction in these many books may be due to its simplicity in first language (L1) acquisition and in second language (L2) acquisition, when the L1 is not Portuguese (cf. Section 2.7).

As to the semantics, Vilela (2009) defined the construction as having causative sense, because "the syntactic subject fulfills an action (...), which causes a result" (VILELA, 2009, p. 79, our translation). She also defines it as passive, demonstrating that, similarly to the canonic passive, there is a restructuring of the sentence. Considering this, Vilela (2009) names the phrasal pattern *passive causative* (*causativa passiva* in BrP). The author excludes from her analysis cases in which there is no semantic role of beneficiary, but of 'maleficiary', as in (34), and cases in which the passive causative is not present, but the active causative, as in (35) (examples taken from Vilela (2009)).

(34) We had our roof blown off.

(35) The teacher had the students write an essay on verbs.

However, as explained before, in the approach adopted here (CG) it is assumed that the passive (36) is an independent construction, and has the form of (36)a. It is not an 'alternative' of the 'active' transitive construction (37). Likewise, sentences such as (30), (34) and (35) are instances of different constructions, although they are related to each other in a family of causative constructions.

(36) This house was built by my grandfather.

    a) Subject BE Past participle (by phrase)

(37) My grandfather built this house.

    a) Subject Verb Object

Moreover, in her study, Vilela (2009) aimed at comparing native speakers of English and Brazilian Portuguese-English bilinguals apprehension of the construction. Nevertheless,

before doing so, the author did not describe the pattern in a truly constructionist perspective. There was no clear description of the semantic-pragmatic pole, alongside with the syntactic pole.

According to Vilela (2009), most of the instances of the construction are given by the verb HAVE in the past, HAD. Additionally, she mentions that there are also cases with the verb GET (38). For her, in these cases, there seems to be "a difficulty or resistance so that the effect may be achieved" (VILELA, 2009, p. 82, our translation). Thus, in the description of the construction, its instantiating by the verb GET would be more peripheral. Hence, the sense of (39) would be more prototypical than that of (38). Both, HAVE and GET, are considered light verbs of English, i.e., function in the construction as auxiliaries.

(38) I *got* my permit approved.

(39) I *had* my permit approved.

This is not consistent, however, with the results found in the present study, discussed in Chapter 4. The use of the verb GET seems to be very productive and not just related to difficulty.

Vilela (2009) contrasted the performance of both native speakers and BrP bilinguals in tasks that demanded knowledge of the English prototypical construction, which is not present in BrP. In the first task, participants were asked to fill out sentences that elicited the construction. She compared the performance of the two groups on the task and observed that the bilinguals used the target structure, *causative-have*, more frequently than native speakers. Also, among bilinguals, the higher the level of proficiency, the more prominent the realization of the construction.

In another task, participants had to evaluate as correct or incorrect sentences in English which assigned the role of beneficiary to the subject without making use of *causative-have*, as in "I did my nails", meaning that "I" did not perform the action. They were also given the chance to explain their choice for each sentence. In this exercise, bilinguals showed much more sensitivity than natives to subject-beneficiary sentences and rejected them, and even explained that the only correct form was "I had my nails done." Interestingly, in contrast, native speakers accepted a considerable number of subject-beneficiary sentences, commenting that it is not the most frequent in their language, but that it is possible.

Vilela (2009) understood these results as a consequence of transfer of training: the instruction given to second language learners is that the pattern of *causative-have* construction is mandatory and the subject-beneficiary one is anomalous. The pedagogical

input, then, combined with little exposure to the language outside the classroom, caused the bilinguals to consider subject-beneficiary as impossible, when natives did not.

The results of Vilela (2009) showed that bilinguals generally knew the grammatical rule to form the pattern *I had my car fixed*. Nonetheless, in the tasks that elicited the production of the construction the group of participants divided itself into two, according to their proficiency level. The most proficient participants used at times the "correct" English construction and at others the "incorrect" (the literal translation from BrP, example (56), while the low proficiency one only used the construction that imitates that of the BrP, making errors). Thus, the less proficient, the less bilinguals have the *causative-have* construction internalized in their linguistic knowledge, which is seen by the production, whilst its explicit representation is more easily acquired.

In this context, this study aims at replicating the results of Vilela (2009) with a more rigorous methodology.

2.6 The English *transitive* construction as a member of the *caused-motion* Goldberg (1995)

At this point, it is important to highlight that the transitive pattern for a causative meaning is not non-existent in the English language, and thus not exclusive to Portuguese. Goldberg (1995) includes the pattern in the examples (40), (41), (42), and (43) in the English *caused-motion* construction, within a generalization established as *conventionalized scenarios*. Following that, the transitive form with a subject agent/beneficiary subject might also be possible in the English language. (40) and (41) (our emphasis) are especially representative, because they have the transitive form, similarly to the BrP, and not the canonical English one.

(40) **Chris cut her hair at the salon on University Avenue.**

(41) **She painted her house.** (when in fact the painter did the painting)

(42) The invalid owner ran his favorite horse (in the race).

(43) Farmer Joe grew those grape vines.

The same form (SVO) is present in Portuguese and is the most productive one, and, in English, the difference may be only in productivity. Native speakers of English would, then, prefer (30), but not reject (40).

Goldberg (1995) calls this *conventionalized scenarios* within the English *caused-motion* construction. This construction is exemplified by her, among other examples, with (44), (45), and (46). This construction has the semantics of a) and the form of b).

(44) They laughed the poor guy out of the room.

(45) Frank sneezed the tissue off the table.

(46) Sam helped him into the car.

      a) "The causer argument directly causes the argument to move along a path designated by the directional phrase, that is, 'X CAUSES Y TO MOVE Z'." (GOLDBERG, 1995)

      b) [SUBJ[V OBJ] OBL]]

Consequently, for Goldberg (1995) the transitive form in (40) and (41), linked to the meaning of provision of service (resulting in a beneficiary subject) is a member of the *caused-motion* construction. For the author, the pattern is a constraint of the *caused-motion* construction, its instances being, thus, extensions of its meaning. She explains that examples such as (40) to (43) expose a semantic constraint on direct causation. The example is a simple causative, as it implies conventionalized causation, which involves "an intermediate cause."

In that sense, a verb such as CUT, which does not imply causativity, in this conventionalized scenario of going to the salon to get one's hair cut, is "cognitively packaged as a single event if an intervening cause exists." (GOLDBERG, 1995, p. 169). This intervening cause is what Ciríaco (2014a) calls an *indirect agent* for the BrP construction. If a person goes to a salon to ask for a service, they had the agency of going and they wanted the service to be performed. This is the case for both the BrP and English constructions. Hence, we will make use of Goldberg's notion of intervening cause, pairing it with Ciríaco's notion of indirect agent.

Although the author presents isolated examples for the English language, there are no evidences of its productivity, given the lack of studies on this pattern. However, the attestation of its existence is interesting: it shows that this construction is not particular of the Portuguese language, and that it may simply not be as productive as in BrP. Another possibility is that it is not well regarded among speakers, who would, thus, prefer the use of the canonical form, reinforcing its productivity.

Here, we stand with the view that what happens is a combination of the two: the SVO form associated with the meaning of provision of services is not productive in English, and consciously marked by the speakers. This markedness may be due to the ambiguity of instances of the construction such as (47) and (48).

(47) She did her nails.

(48) He trimmed his beard.

We also argue that this construction is **not** part of the family of the *caused-motion* family, because it does not imply any motion. As Goldberg herself maintains "the scenes [. . .] cannot occur with directionals" (GOLDBERG, 1995, p. 169), that is, movement prepositions, such as *into* and *onto*, characteristic of the *caused-motion* construction. These prepositions are present in all the other instances of the construction proposed by Goldberg, even those with semantic constraints, such as (49).

(49) Constraint: the implication of actual motion (GOLDBERG, 1995)

        a) Sam allowed him *into* the room.

Additionally, the studies of bilingualism with the *caused-motion* construction (such as Souza (2012) never use instances with a transitive form such as (40) or (47). It could be the case that these studies preferred more prototypical instances of the pattern, such as (50). However the lack of this pattern in them may indicate that indeed it does not have motion and it does not belong with the construction.

(50) The trainer jumped the lion through the hoop.

Notwithstanding, (40) and (41) are clearly instances of a causative construction, just do not pertain to the *caused-motion* constraints. Thus, it needs to be described again, and put in a more adequate family of constructions.

      Moreover, in the BrP speaking context, the services provided by a professional seem to be part of a cognitively framed conventionalized scenario. For that reason, the transitive form can be used. Much the same as the English examples (40) and (41). However, this use does have direct causation, as the canonical causative has, with its overt syntactic mark, HAVE or GET. Compare (51) and (52): the transitive form has an *indirect causation*, as Goldberg (1995) states.

(51) Anna remodeled her house.

(52) Anna had her house remodeled.

2.7   Crosslinguistic generalizations

Having described the patterns, in this part, we will compare the two causative constructions under study: the English causative-have construction and the BrP transitive con-

struction of agent/beneficiary subject, focusing on the challenges faced by BrP-English bilinguals to learn the first.

Consider the examples (53) and (54), which correspond in meaning and fucntion in BrP and English respectively. (53) translates to "Martha removed her tattoo", but is used with the same meaning and function of (54). While there is semantic resemblance on the one hand, on the other the syntactic disparity is clear – the BrP construction displays an [SVO] form, while the English one shows an [SAuxOV] form. As to the semantic pole, both constructions are characterized by: i) the meaning of indirect causation – in both, Martha caused or asked someone to act in order to remove her tattoo; and ii) the function of *provision of services* – both of them are linguistic encodings that respond to the function of *provision of services* or, in other words, to a conventionalized scenario in which people can have a service done by someone else in their benefit. As to the the formal pole, however, the constructions present a difference as to the realization of the verb. In English, the construction resorts to an auxiliary verb, HAVE or GET, while in Brazilian Portuguese there is not any formal mark as so.

(53) *Martha removeu sua tatuagem.*

(54) Martha had her tattoo removed.

The BrP causative construction under study (transitive construction of agent/beneficiary subject, accordingly to Ciríaco (2014a)) has the same form of the transitive construction, [SVO], but with a complete different meaning. Compare (53) and (55), for instance, which are syntactically equivalent in BrP:

(55) *Martha removeu a mancha.*

Both (53) and (55) have the [SVO] form. Nonetheless, their semantics differ substantially, and only (55) can be considered an instance of the prototypical transitive construction. In (53), the most plausible interpretation is that Martha resorted to a professional to perform the removal, and therefore is not the agent, but the beneficiary of the action. This is given by the pragmatic function of the construction, which is the conventionalized scenario constraint: removing a tattoo requires the help of a specialized professional. Whereas in (55), the most acceptable interpretation is that Martha removed the stain herself, thus being the agent of the removal, due to the lack of a conventionalized scenario in which it is possible to go to a place that offers a stain removal type of service.

English examples (56) and (57) allow us to draw the distinction between the BrP and the English constructions:

(56) Martha removed her tattoo.

(57) Martha removed the stain.

(56) is a literal translation of (53): they have the same form, but by no means the same semantics and pragmatics, that is, (56) does not prototypically mean that Martha had her tattoo removed. For native speakers of English, the first (and possibly only) interpretation to (56) is that Martha removed her tattoo herself[8] (VILELA, 2009). This is due to the fact that the transitive construction in English is not commonly associated to the meaning of *provision of services* as it is in BrP, given the right scenarios. The uneasiness brought by (56) (the fact that Martha actually removed her tattoo herself), thus, would be solved in context.[9] As to (57), a literal translation of (55), it is perfectly understood, because the analysis that Martha removed the stain herself (agent) is compatible with the English transitive construction as much as it is to the BrP one.

Concerning its form, the construction is not completely anomalous to BrP bilinguals. They do not seem to have difficulty in explicitly remembering its form, because its syntax is easily "passed on" to BrP, if literally translated, as seen in (58), a literal translation of (54). However, in this case, the sense of agency is lost, as it is in (60). For (58) and (60), the most likely interpretation is that Martha did not want to have her tattoo removed, as well as Isabela did not want to have her hair cut, respectively.

(58) *Martha teve sua tatuagem removida.* (literally translates to (54))

(59) Isabella had her hair cut.

(60) *Isabela teve seu cabelo cortado.* (literally translates to (59))

According to Goldberg (2003), one of the tenets of Construction Grammar states that "cross-linguistic generalizations are explained by appeal to general cognitive constraints together with the functions of the constructions involved" (p. 219). Therefore, we claim that the cross linguistic generalizations that hold between the two causative constructions examined in the present study can be explained by **frequency**, that is, statistical learning, as a general cognitive constraint, and the **function** of the construction.

Acknowledging the fact that the transitive construction exists in both languages and, mainly, that it is the most frequent in them, paves the way to understanding the difficulty for BrP bilinguals to acquire the English *causative-have*. The high frequency of the transitive occurrence in both languages (BYBEE, 2013) is a contrary force to the adequate categorization of the English construction by bilinguals. Therefore, although

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[8] This intuitive description was based on the work of Vilela (2009), and later put to the test in the present study (see Chapter 3 and the Conclusion).

[9] This sentence could be followed by *She did it herself, can you believe it?*, expressing surprise because of the unlikelihood of the event.

different, the form of *causative-have* is not the cause of learning impediment, but the competition with a tremendously more frequent pattern in the first language (L1), the transitive construction.

For that reason, the construction can be easily accommodated into the *explicit* repertoire of BrP bilinguals speakers. That is, they can verbalize their knowledge of the pattern, they can say the formal difference between it and the BrP one, and, therefore, can use it consciously. This explicit knowledge, however, does not entail *implicit* knowledge of the construction (ELLIS et al., 2009), which would be perceived by its automatic use, as the results of Vilela (2009) have shown in Section 2.5.

The function of *provision of services* seems to be the aspect of meaning that explains the cross linguistic generalization that occurs between BrP and English. According to Boas and Gonzálvez-García (2014), the semantic pole is the primary one in the acquisition of a construction. This view can be applied to the analysis of the two constructions here examined. Bilinguals hold on to the meaning of the construction, that of *provision of services*, and ignore the fact that the form of the prototypical construction of the L2 is different, that is, it does not correspond to the prototypical transitive [SVO].

Wasserscheidt (2014) also shows that cross-linguistic generalizations, when they occur, are related to the semantic pole of the constructions. The author's data show that generalizations over form do **not** play a role in processing. Thus, neither syntactic nor grammatical form is needed, and the transfer is semantic in nature. In the case of the construction studied here, the function of "provision of services" is indeed the one which seems to play a role in the transfer in the bilingual processing, not the form of the construction itself (specially considering that [SVO] is a productive form in English as well). Hence, when the scenario that is being conceptualized involves this pragmatic function, speakers choose the causative form which is more frequent and prototypical, and in the case of the bilinguals, that is the [SVO], because of their L1.

In that sense, the occurrence of the [SVO] form with the meaning of *provision of services* could be explained by the high frequency (general constraint) of this argument pattern in the speakers' L1, added to the semantic-pragmatic function of the construction, identified as a possible scenario by them in the given contexts and "passed on" to the [SVO] form in English.

In addition, as stated by Gardner-Chloros (2008), in the accommodation of constructions among languages:

> "where a bilingual speaker's two languages share a common syntactic structure, the speaker will tend to use that common structure rather than any alternative ones which fulfill the same function but do not exist in both languages." (GARDNER-CHLOROS, 2008, p. 56)

That is the case of the acquisition of the English construction by BrP bilinguals, which

occurs even with a very peripheral instance of the construction, the transitive. It is the basis for the construction in BrP and for that reason is preferred by the bilinguals, even without its (significant) occurrence in the input.

3 Methods

This study focused on how BrP bilinguals and monolinguals processed the English *causative-have* construction, mainly in its peripheral form, the transitive. For that purpose, we conducted two experiments, an interpretation and a *cloze* task. Hence, this chapter concerns the methodology and is divided into 3 sections. First, Section 3.1 presents an overview of the experiments, their materials and groups of participants. The details of Experiment 1 and Experiment 2 are presented in Sections 3.2 and 3.3, respectively.

3.1 Experiments Overview

The methods were divided into two parts and they were conducted over the internet. The first consisted of the *Vocabulary Levels Test* (VLT) (NATION, 1990), which tested the bilingual participants' proficiency in English. The second part consisted of the two experiments. Experiment 1 was an interpretation task, concerning the construction of English causative construction. Experiment 2 was a *cloze* task, which elicited the pattern. The whole experiment was carried out online, sent via e-mail to the subjects, who answered it by their own means.

Two groups of people participated in the experiments. Brazilian Portuguese-English late bilinguals and English monolinguals (i.e. English native speakers) will be referred to as bilinguals and monolinguals, respectively. The bilingual group performed the VLT, and only those who scored more than 3 were considered of sufficient proficiency and proceeded to the next phase, the interpretation and *cloze* tasks.

Experiment 1 was an interpretation task, which comprised several small texts of three sentences. Participants were told to read each text and agree to the last sentence, choosing a number on a scale from 1 to 5 (LIKERT, 1932). The second consisted of a *cloze* task, which is a set of sentences to be completed freely by the participants.

On Experiment 1, the participants read the instruction to read the first two sentences of each item and, according to them, agree or disagree with the third sentence on it, on a scale of five points. The experimental items were randomized and of two types: distractor, intended to avoid bias, and critical, the ones which were analyzed. Critical items were further divided into control and target.

Each critical item was composed of two parts. Part one had two sentences, the first was a context and the second was the target. It presented the construction, either on the Brazilian Portuguese syntax, the real target, or in the English one, the control.

Part two had one sentence with an interpretation of the previous, that resembled the BrP preference (described in Chapter 2). Distractor items were all composed of the same two parts of the critical ones, resembling in form to the latter, but with no analysis intent. All items were randomized.

On Experiment 2, participants were simply told to complete a set of sentences, 20 in total. Among this number, 5 were critical items, which elicited the construction. The other 15 were distractor items. All items were randomized as well.

Figure 2 – Experiment 1: Control item

Figure 3 – Experiment 1: Target item

Figures 2 and 3 show an example of a critical and a distractor item of Experiment 1, which are detailed in Section 3.2.

Experiments 1 and 2 addressed different facets of language processing, namely comprehension and production, respectively. Their results are compared and contrasted in Chapter 4.

3.2 Experiment 1

The objective of Experiment 1 was to compare the interpretation of the causative construction by BrP Bilinguals and English monolinguals. We wanted to know if sentences such as (61) had the interpretation of an agent or a beneficiary subject. These sentences had the prototypical form of the causative construction of BrP, in English. In that sense, we also used, as a control condition, sentences such as (62), with the *causative-have*, the prototypical causative in English.

(61) Alex did her nails.

(62) Alex had her nails done.[1]

For that purpose, an off-line processing task was carried out. BrP-English late bilinguals and English natives were recruited to perform it, adding 51 subjects: 31 bilinguals and 20 monolinguals.

The task was composed of 65 experimental items, among which 18 were the target of this study, while 47 were distractor items. They were all presented in one web page[2] and they were all mandatory. Participants were told that there were no correct or incorrect responses and that the important was how they interpreted each of the sentences. For the experimental items in full, see Appendix A.

The experimental items were carefully designed, so as to be adequate in relation to word frequency, according the *Contemporary Corpus of American English* (DAVIES, 2008-). As frequency seems to affect language processing (LEVELT; ROELOFS; MEYER, 1999) all the verbs used in the sentences were among the 5000 most frequent words of the English language. This was also done because bilingual participants were accepted with VLT 3, which corresponds to the knowledge of 5000 lemmas of the English language (NATION, 1990). Special attention was given to the verbs of the critical items, which were subdivided into three frequency bands and are detailed in Section 3.2.1.

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[1] In the actual experiment, verbs were not repeated, each verb appeared either in control form or in the target.

[2] Both tasks were done in a self-hosted instance of the Lime Survey survey tool (SCHMITZ, 2012).

As exposed in the Overview (3.1), each item had three sentences. The first was a context, that helped the understanding of the following two. It is important to highlight that neither the first or the second were, however, meant to interfere with the interpretation of the third sentence, in relation to the *semantic role assignment*, beneficiary or agent. This means that, mainly in the second, where the structure of the causative construction appeared, no adjunct of place was present.

We believe that the presence of the adjunct would possibly force the subject-beneficiary interpretation. While this is a relevant question to address, this was not the purpose of the present work. It was concerned, among other things, with the previous question of whether the transitive [SVO] in English is a possible association to the meaning of provision of services, as it is in Portuguese. Hence, it was important that all the context sentences, the first in each item, presented no reference to a possible agent in the of form an adjunct, such as examples (63) and (64) do. Considering that we aimed at checking assignment of semantic role, nothing in the items could bias one of these interpretations, other than the conditions of this experiment.

(63) Mark trims his beard **at the <u>barbershop</u>**.

(64) Ana cuts her hair **at the <u>salon</u>**.

Therefore, in this task, we aimed at investigating whether the causative construction under study existed as a [Subject Verb Object] in English, in monolinguals' and bilinguals' **comprehension**. Thus, the question addressed through this task was whether participants *understood* the canonical form of the construction in English or the BrP form [SVO], and how frequently so.

3.2.1 Experimental Items

The items to be analyzed consisted of the target sentences, and the verbs in them were divided into three ranges of frequency, within the 5000 most frequent words of the English language, according to COCA. From that list, the verbs were:

  (I) between 1 and 1500 of the most frequent words;

  (II) between 1501 and 2500 of the most frequent words;

(III) between 2501 to 5000 of the most frequent words of the language.

For the purposes of this study, verbs of (I) were considered of extremely high frequency, verbs of (II) of medium frequency and that of (III) of low frequency. Clearly, all three categories are considered of high overall frequency, hence the choice to use them in this

study. Nonetheless, the differentiation made here intended to detect any difference in interpretation due to this factor, even among the 5000 most frequent words.

This refinement is important because the construct addressed is not simply the interpretation of verbs, but the interpretation of verbs occurring in a specific construction. We believe that slight differences in verb frequency would favor one or another interpretation. For instance, that a highly frequent verb, such as *do*, shown in example (65), would favor the interpretation of the beneficiary subject. This would be more accurately investigated if we had access to the frequency of verbs **in** the construction, however that was not possible.

(65) She did her hair.

All the target and control items had the following structure (with an example):

(66) Item Structure

   a) Context sentence: Proper name + contextual predicate – *Isabela likes to be beautiful at all times.*

   b) Critical sentence: Pronoun (referring to the name) + form of BrP or English – *Yesterday, she cut her hair.*

   c) Interpretation sentence: Proper name + the action of causation investigated + reflexive. – *Isabela cut her hair herself.*

In every case, the context sentence was meant to contextualize the need or the motivation for the realization of the action denoted by the main verb. For instance, to like to be beautiful would motivate cutting one's hair or having one's hair cut. Then, the critical sentence had either the canonical form – the control (62), or the transitive form – the target (61). At last, the interpretation sentence, in (66)c, to which participants had to agree on a scale of 1 (strongly disagree) to 5 (strongly agree), was an affirmation that the subject performed the action itself.

The target items, the ones with the transitive form, would inform the assignment of semantic role. The choice of 1 or 2 would show that the participant rejected the role of agent for the subject, that is, Subject did not perform the action her/himself. In that case, the role of beneficiary was assigned. On the other hand, the choice of 4 or 5 would indicate that the participant assigned the role of agent to the subject, which performed the action, did not cause someone to perform it for them. Most importantly, the difference between groups would inform us how differently they interpreted the construction.

3.3 Experiment 2

Experiment 2 consisted of a *cloze* task that was presented in the web page of Experiment 1, right after it. In the task, participants had to complete freely 20 sentences, among which 5 were target and 15 were distractor. A list of all items, critical and distractor, as well as every answer given to target, can be found in Appendix B. The target items were:

(A) Every Saturday morning, Edward goes to the barbershop to

(B) Marianne is going to the salon this afternoon to

(C) Anna took her car to the nearest garage to

(D) After his accident, Jason went to the dentist to

(E) Vicky had an appointment with Ethan, the hairdresser, to

Their structure consisted of a subject (a proper name), and a predicate which expressed moving to a place where services can be asked (barber shop, salon, garage), or a situation that called for a professional (an accident, appointment with the hairdresser). These sentences ended with the preposition TO, with the intention to elicit a verbal pattern in the completion. There were also four distractor items ending with TO, as a means of control, to check if the participant would indeed use a verb after this preposition.

Therefore, in this task, the semantics of *provision of service* was intended to be a given, in order to check the occurrence of the construction. Thus, the question addressed with this task was whether participants **produced** the prototypical form of the construction in English, that is, the *causative-have* construction, or the peripheral form, that is, the transitive ([SVO], the BrP form).

Firstly, the conditions were three: 1) use of the form of the English language [Subject + HAVE or GET + Object + Past Participle], 2) use of transitive form [Subject + Object + Verb] and 3) any other answer with or without a verb. Upon a first look at the data obtained, instances of the passive construction were found, for sentence (C). Hence, another category was added to the analysis, the passive.

(67) Anna took her car to the nearest garage to *be repaired*.

Consequently, the conditions of this task were 1) use of the form of the English language [Subject + HAVE or GET + Object + Past Participle], 2) use of transitive form [Subject + Object + Verb], 3) use of the passive, 4) any other answer with or without a verb.

4 Data analysis

4.1 Results Experiment 1

The main hypothesis for Experiment 1 was that bilinguals would reject the interpretation of the beneficiary associated to the subject significantly more than monolinguals, as in the results of Vilela (2009). Figures 4 and 5 show the distribution of the data for the groups, in control and target conditions.
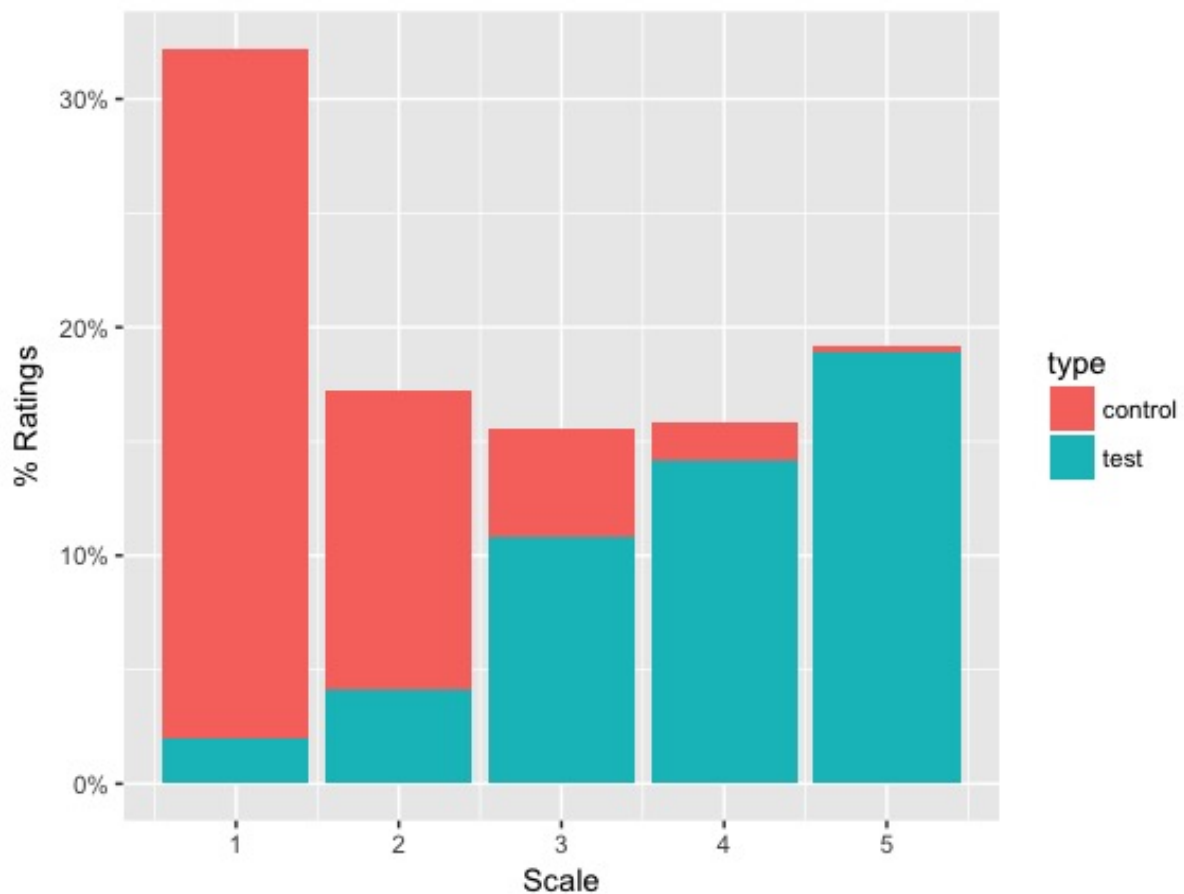
Figure 4 – Distribution of ratings in control and target (test) conditions - Monolinguals

We also expected that both groups would interpret control items differently from target items. In order for the control items to be considered a true control condition in the experiment, their interpretation would have to be considerably different. Table 2 presents the ratings' means and medians (in parentheses) for each type of item, for each group. As expected, it shows that the control items really favor the rejection of the interpretation here investigated (subject agent), especially in comparison to the target items. Also, for bilinguals, the difference was smaller.
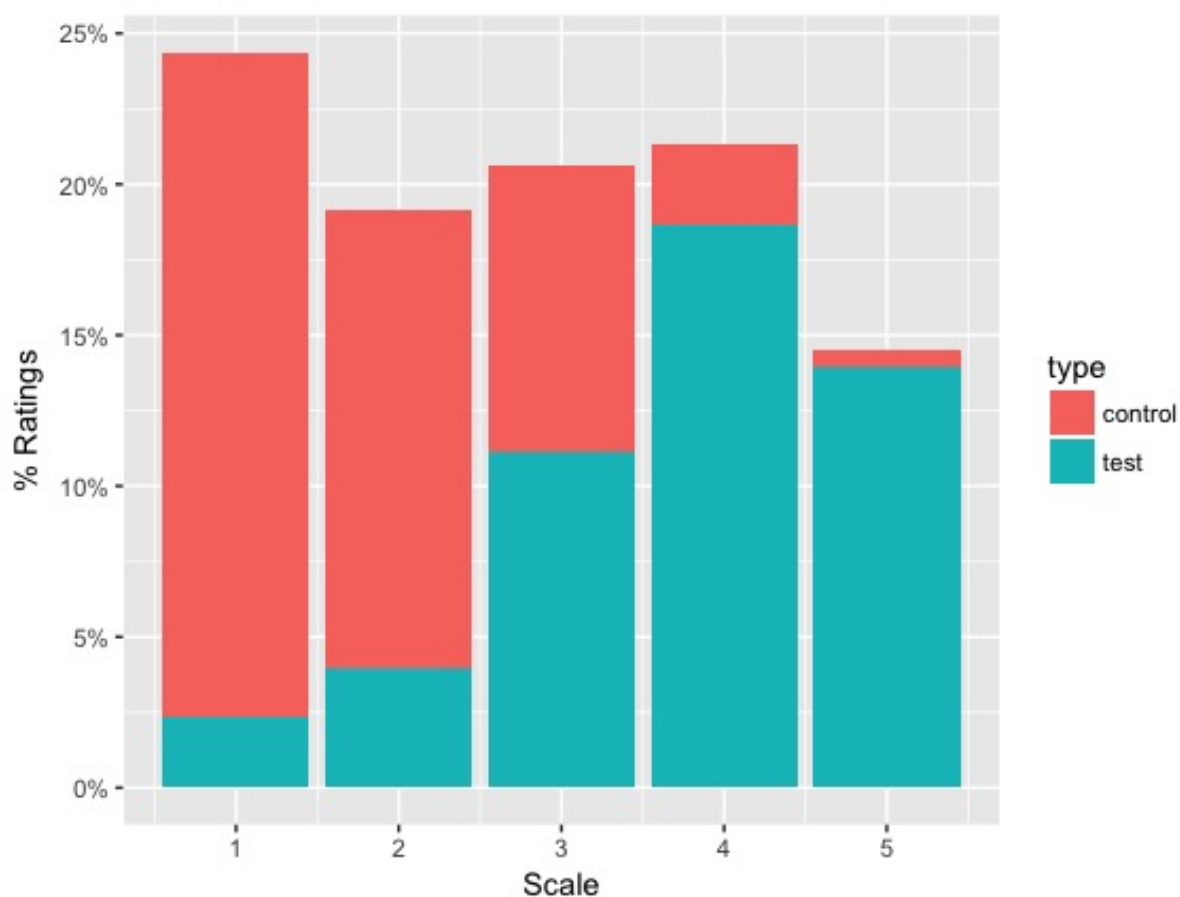
Figure 5 – Distribution of ratings in control and target (test) conditions - Bilinguals

Table 2 – Experiment 1 - Means and Medians of Ratings (1-5)

Type	Monolinguals	Bilinguals
Control	1,57 (1)	1,89 (2)
Target	3,88 (4)	3,76 (4)

This experiment also tested whether participants would be sensitive to a change in the frequency of the verb that instantiated the construction. Concerning that, our hypothesis was that highly frequent verbs would have a higher rate of semantic role assignment as beneficiary, for both groups, while less frequent verbs would have a lower rate. This was based on the fact that frequency affects mono- and bilingual language processing (LEVELT; ROELOFS; MEYER, 1999; GUIMARÃES, 2016). Given the nature

Table 3 – Experiment 1 - Means and Medians of Ratings (1-5) - divided by frequencies

Frequency	Monolinguals	Bilinguals
High	3,25 (3)	3,35 (3)
Medium	3,92 (4)	3,90 (4)
Low	4,47 (5)	4,02 (4)

of the data obtained with this type of task – ordinal – we constructed a cumulative linear

mixed model fitted with a Laplace approximation (CHRISTENSEN, 2018). The model computed rating as a function of the interaction between verb frequency, type of speaker and type of item. This model was significant (p < 0.01).

The model provided us with 66 contrasts among the conditions aforementioned. In our analysis, we only examined 15 of them, the ones in which only one condition varied, for example control-high-bi Vs test-high-bi, e.g. a contrast between control and target items of the high frequency band for the bilinguals. We could not draw any conclusion from comparisons of different conditions varying, such as control-high-bi Vs text-low-mono, neither from control-high-bi Vs text-low-bi, because we would not be able to accredit the effect to one specific interaction. Additionally, from the instances with the condition *control* only the ones which could be compared to the *target* (test) were inspected.

We will now describe which of these interactions were statistically relevant for our data. As a previous analysis, we will report on the differences between the types of items, *control* or *target* (*test* in the tables), for every frequency band and for both groups. This difference indicates whether the control items were correctly designed, and also the target. After that, we will begin to investigate the difference between target items. Firstly, the effect between frequency bands — high-medium, high-low and low-medium — will be addressed considering both groups of speakers separately. Subsequently, the effect of the isolated frequency bands will be exposed, comparing one group with the other.

Control - Target

For each frequency band, in both groups, there was a significant difference between control and target items, as Table 4 demonstrates.

contrast	estimate	SE	df	z.ratio	p.value
control,high,bi - test,high,bi	-2.85931225	0.6723057	Inf	-4.253	<.0001
control,medium,bi - test,medium,bi	-3.86884828	0.6764390	Inf	-5.719	<.0001
control,low,bi - test,low,bi	-3.97673767	0.6794700	Inf	-5.853	<.0001
control,high,mono - test,high,mono	-3.64281979	0.7144793	Inf	-5.099	<.0001
control,medium,mono - test,medium,mono	-5.33747930	0.7271425	Inf	-7.340	<.0001
control,low,mono - test,low,mono	-5.30360399	0.7400537	Inf	-7.167	<.0001

Table 4 – Contrast: control and target for each group

The **estimate** value represents the difference between one condition and the other, while **z** and **p** values indicate that this variance is significant. We can reject our null hypothesis (that our results were due to chance and not to our hypotheses) if z < -2 or > 2 and p < 0.05, which is true for these contrasts. As to the estimate, if it is negative, it indicates that the first condition in the comparison had the smaller value. In this case, all

of the contrasts of Table 4, present *control* first. Thus, the negative values of **estimate** mean that control items had lower ratings than the target items, for both groups, in the three frequency bands. Therefore, with accordance to the descriptive analysis (Table 2), our control items were interpreted differently from the target items, as intended.

To interpret this result, let us now recall the nature of the items. Every item had three sentences: one context (a), the construction in one of its forms – the prototypical or the transitive – (b), and the sentence to which the participants had to agree or disagree with (c). This last sentence was always of the same type: it assigned the semantic role of agent to the subject.

(68) Control

    a) Mark is very stylish, he is always into trends.

    b) Last week, he had a minimalist tattoo done.

    c) Mark did the tattoo himself.

(69) Target:

    a) Isabela likes to be beautiful at all times.

    b) Yesterday, she cut her hair.

    c) She cut her hair herself.

Thereby, the lower ratings for the control condition indicate that this construction does not allow the interpretation of subject agent for either group. That is, both monolinguals and bilinguals tend to interpret sentences such as (68) b) as a subject beneficiary, with considerable more consistency than sentences such as (69) b).

Frequency

The verbs used for control and target conditions were divided into three ranges of frequency: high, medium and low. In the experiment, each verb appeared only once (except for the verb DO), and in one condition. All of the items can be found in Appendix A. The verbs of each frequency band used in this experiment, with the object used in parentheses, are listed below:

(70) High

    a) Control: do (a tattoo), do (the nails), do (the eyebrows);

    b) Target: cut (the hair) sell (the appartment), remodel (the house);

(71) Medium

 a) Control: paint (house), straighten (hair), fix (car)

 b) Target: copy (notes), wash (car), print (thesis).

(72) Low

 a) Control: highlight (hair), rent (house), repair (teeth);

 b) Target: redecorate (house), trim (beard), scan (computer).

Our hypothesis (for target items) was that verbs with higher frequencies would have higher ratings than less frequent verbs. This would indicate that the first are more acceptable with beneficiary subject, while the latter are less acceptable. Table 5 shows the contrasts between frequencies, for the target condition, for each group.

Contrast	estimate	SE	df	z.ratio	p.value
test,high,bi - test,medium,bi	-1.23912572	0.6648032	Inf	-1.864	0.0914
test,high,bi - test,low,bi	-1.06193188	0.6639314	Inf	-1.599	0.1420
test,low,bi - test,medium,bi	-0.17719384	0.6638190	Inf	-0.267	0.8542
test,high,mono - test,medium,mono	-2.59070400	0.7073998	Inf	-3.662	0.0005
test,high,mono - test,low,mono	-1.48870935	0.6993991	Inf	-2.129	0.0523
test,low,mono - test,medium,mono	-1.10199465	0.7098841	Inf	-1.552	0.1530

Table 5 – Contrast: Frequencies for bilinguals and monolinguals

For bilinguals, there was no significant effect for any frequency band (z values > -2; p values > 0.05). Thus, semantic role assignment does not seem to be affected by verb frequency for this group, at least not at the ranges established for this study.

In contrast, monolinguals were sensitive to verb frequency, in the comparisons between high and medium and between high and low. Table 5 shows that the high frequency appears first, thus the negative values of estimate (-2.59 and -1.48) mean that high frequency verbs were rated as less acceptable with a subject agent interpretation. This finding was consistent to what we had hypothesized. The highly frequent verbs used in this task favored a subject beneficiary interpretation.

Moreover, the means and medians through the frequency bands (Table 3) also indicate that frequency plays a role in this assignment, although this effect in only tangible for monolinguals (significant effect). For the two groups, there is a progression: the lower means and medians are the in high frequency range, scaling up to the low frequency range.

Bilinguals - Monolinguals

Comparing the two groups of participants in their interpretation of the target sentences was the main objective of this experiment and of this study. In that sense, our goal was to replicate Vilela's (2009) findings: that bilinguals were more sensitive to the use of a transitive form with a benefiary subject. Thus, our hypothesis was that bilinguals would have significantly greater ratings for the sentences with the transitive form, such as (73) than monolinguals. The interpretation of (74) would be favored.

(73) Martha and Peter are selling their apartment.

(74) Martha and Peter are selling the apartment themselves.

Table 6 shows the contrast between bilinguals and monolinguals, in the target items, for the three ranges of frequency. It demonstrates that high and low frequencies had no significant difference between the groups. Medium frequency, on the other hand, presented a significant difference (estimate -1,13; z.ratio = -2,980; p.value = 0.0049). This indicates that, for the medium frequency, bilinguals were not more sensitive than monolinguals to the transitive form with a beneficiary interpretation. To this interpretation, they gave lower ratings to sentences such as (73).

contrast	estimate	SE	df	z.ratio	p.value
test,high,bi - test,high,mono	0.22064575	0.3526621	Inf	0.626	0.6155
test,medium,bi - test,medium,mono	-1.13093253	0.3795325	Inf	-2.980	0.0049
test,low,bi - test,low,mono	-0.20613171	0.3685675	Inf	-0.559	0.6554

Table 6 – Contrast: Bilinguals and Monolinguals for each frequency band

Therefore, for the medium frequency, we could reject the null hypothesis, there was a significant effect. The direction of this effect, however, was not the hypothesized. Our data indicates that bilinguals were not more sensitive than monolinguals to the use of the transitive with a beneficiary meaning, their ratings for this interpretation were -1.13 points smaller than that of monolinguals. That is, when reading sentences such as (73) they had a beneficiary interpretation, similar to the BrP one and the English peripheral. For them, the transitive form had a causative sense. This enables a conclusion that the results of Experiment 1 were not consistent with of that of Vilela (2009).

Despite the lack of a significant effect in the frequency ranges, comparing monolinguals and bilinguals in the target sentences, there is an important consideration to make. The very lack of an effect is in accordance with their rating means, in Table 2. Thus, both groups interpreted the sentences similarly.

The similarity between the groups implies that both of them analogously assign semantic role in this causative construction. From that we deduct that where monolinguals reject or accept the agent subject interpretations, bilinguals behave considerably similar.

In this study, we aimed at investigating the processing of the English *causative-have* construction by monolinguals and bilinguals. This was done based on the influence of training in the learning of the construction by BrP bilinguals, reported by Vilela (2009). This study also aimed at characterizing this pattern of the language in both Portuguese (CIRÍACO, 2014a) and English, with a focus on the latter. In that sense, our purpose was to describe the pattern as an argument structure construction (GOLDBERG, 1995) common to the two languages. Therefore, this chapter recapitulates the description of this construction and relates it to the experimental results.

First, we will recall each of our hypotheses and whether they were confirmed or rejected:

(a) the *causative-have* construction would be an extension of the causative construction;

This hypothesis was based on the grammatical characterization of the pattern by multiple sources (GOLDBERG, 1995; AZAR, 2001; VILELA, 2009). It was confirmed by our descriptive analyses and by our experiments. Bilinguals and monolinguals behaved consistently, be it accepting the interpretation of beneficiary subject in the Experiment 1, be it producing both instances of the causative construction, when it was elicited in Experiment 2. Section 4.3.1 is devoted to discussing these results.

(b) bilinguals would be more sensitive than monolinguals to the use of the transitive form of the construction, as they were in Vilela's (2009) study;

This hypothesis, based on the study of Vilela (2009), was not confirmed in our study. There were no significant effects for high and low frequencies, while the medium frequency did show an effect, but the opposite of what was expected. For this frequency band, bilinguals had a higher rate of rejection of the subject agent interpretation, in comparison to monolinguals. They interpreted it as subject beneficiary sentence, similarly to the BrP.

We understand these results as due to the fact that, compared to the tasks of Vilela, ours did not resemble a pedagogical exercise or test. In Experiment 1, participants were told to respond whether they agreed or not with the interpretation, not how much it was correct. Vilela's tasks, on the other hand, were very similar to a "fill-in-the-blanks" activity, which is extremely common in textbooks. As stated by Derwing and Almeida (2005), the nature of the task itself is a factor of the study, which can thus influence results.

The pedagogical characteristic of Vilela's study is probably the reason why participants resorted to the instruction of the *causative-have* pattern.

Another reason for this result may be that the frequency arranging was not a good methodological choice. Maybe if we reinterpreted the data without it, we would get results that were more clearly understood. However, it could be the case that the effect disappeared altogether, and we would not suspect that there is a difference for the medium frequency.

Yet another possibility is that the raw frequency is less informative than the frequency of the verb in the construction, as collostruction analysis indicate (STEFANOW-ITSCH; GRIES, 2003). Collostructions combine the ideas of collocations, words that frequently appear together in a corpus, with probability. It is a statistical and corpus-based technique of calculating the odds of a construction being used with another one, even a word, through the raw frequencies. If we could have access to those numbers, we could possibly find that the verbs in the medium frequency range are either the less frequent in the construction and/or the less frequent in the textbook input, for example.

The collostructional analysis would also help in the semantic characterization of the construction. Knowing what words, verbs and adjectives, statistically repulse and what others attract the construction has at least two possible beneficial outcomes. The first is that it could allow for a better delineation of the semantic-pragmatic relation. For example, it could be the case that the words CUT and HAIR for instance, are attracted to the construction, while the phrasal verb BLOW OFF is not. In this hypothetical situation, we would be able to define the semantic pole of the construction more precisely, through probability, and not just a sum of raw frequency and intuition (although Stefanowitsch and Gries (2003) themselves assume that this is already a huge improvement on analyses that are solely intuitive).

The second is that, just as Stefanowitsch and Gries (2003) remark for their data, knowing the collostructions of the clausal pattern would bring advantages to the pedagogical practice of teaching English as a second language. This would probably, for example, verify that GET is a much more probable verb than it is taught in textbooks, as our results indicate.

Although finding these pieces of information can be done through *corpora* consultation, it is harder than finding the same type of information concerning the passive, for instance. This is because this construction has functional meaning as a very relevant part of its description, and this meaning can only be proved in context. Thus, in order to access it, finding the number of instances of the pattern [SUBJ AUX OBJ V] would only be the beginning of the analysis, which would have to move to the tagging of what is in fact an instance of the construction. Because of time, this was not on the scope of this work, but future work can devote to that and certainly find more accurate results. The

collostructional analysis might be revealing, as it fits well with the theoretical background of CG and future work can delve into that.

(c) highly frequent verbs will be more acceptable in the transitive form by both groups;

We hypothesized this based on the assumption that highly frequent words, in general, are the ones with the larger variation and, consequently the first to change. That is the case, for example, for phonemes. Our results, however, did not confirm this supposition. First, for bilinguals the comparison between frequency ranges did not show any significant effect. Second, for monolinguals, there was an effect, the opposite of we expected. Monolinguals seem to disprefer the subject beneficiary interpretation for highly frequent verbs, because this range showed significantly lower acceptance, compared to medium and to low ranges.

In order to interpret these results, we further hypothesize that the verbs used in the high frequency band could or not be the most frequent in the construction. Again, not having checked the frequency of the verb in the construction might have affected the results.

The other interesting result to account for is that bilinguals did not interpret the construction differently as a function of the frequency range. This may be due to the fact that, for bilinguals, frequency is not so relevant in the acquisition of the construction. A future analysis could also separate bilinguals into two groups, of high proficiency (VLT 5) and low proficiency (VLT 3).

(d) bilinguals would produce more transitive forms and natives would produce it marginally.

We hypothesized this based on the results of Vilela, which showed that monolinguals do not completely reject the transitive with a subject beneficiary interpretation, within the causative construction. Also, according to the description of Goldberg of the *conventionalized scenarios*, we expected monolinguals to understand (Experiment 1), as well as produce this structure (Experiment 2). Our results confirmed our hypothesis and exceeded it.

Bilinguals did produce the pattern in every instance, probably also as function of the influence of their L1, in which the pattern is the most prototypical one. Besides that, for monolinguals, the result was even more significant. This group produced transitives for three of the five instances, and not only marginally, as hypothesized.

Therefore, monolinguals' use of the transitive form associated to the meaning of *provision of services* confirms our hypothesis that this form is possible in this language.

This also indicates that its use by bilinguals is not only due to L1 influence, but probably because this is a higher order cognitive process. This means that in human cognition, events that are realized by others, given *conventionalized scenarios*, may be framed as having been 'done' by the one who caused it, with the consequent use of the [SVO] form. This fact confirms the Tenet 5 of Goldberg (2003), according to which cross-linguistic generalizations can be explained through cognitive constraints and the **function** of the construction involved, in this case the *provision of services.*

4.2 Results Experiment 2

Our hypothesis for Experiment 2 was that monolinguals, as well as bilinguals, would also produce the transitive form, at least marginally, when the meaning of provision of services was elicited. This hypothesis was based on two main points, which have been exposed in Section 2.5. First, on the results of Vilela (2009), which found that monolinguals dispreferred the transitive structure but did not reject it completely. Second, on Goldberg's (1995) acknowledgment of the existence of the pattern in the English language, as a *conventionalized scenario* semantic restriction.

Table 7 shows the percentages of answers of Item (A) for both groups. It is relevant to note that 57,1% of bilinguals used the prototypical form, against 76,4% of monolinguals. In this item, monolinguals did not use the transitive form, but 5,9% used the passive, while 22,8% of bilinguals used the first but not the second. There was also a high level of answers which did not fall into any of the categories, such as *'talk to his friend'.*[1]

(A) Every Saturday morning, Edward goes to the barbershop to _____					
Group	GET	HAVE	**Transitive**	**Passive**	**None**
Monolinguals	58,8	17,6	0	5,9	17,6
Bilinguals	17,1	40	22,8	0	20

Table 7 – Cloze A: Percentages

For Item (B), seen in Table 8, the use of the transitive form for bilinguals increased (25,7%) and monolinguals did produce instances of the transitive (11,8%). The same percentage is seen in Item (D) (Table 10) for monolinguals, whereas bilinguals increased considerably: 62,8%.

Construction usage in Item (C), seen in Table 9, is similar to that of Item (A): bilinguals produced transitives (22,8% and 20%, respectively), while monolinguals did not. They differ, however, in the realization of the passive. In (A), 5,9% of monolinguals use the

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[1]   All the answers to the target items are listed in Appendix B.

(B) Marianne is going to the salon this afternoon to _____					
Group	**get**	**have**	**Transitive**	**Passive**	**None**
Monolinguals	52,9	29,4	11,8	0	5,9
Bilinguals	25,7	34,3	25,7	0	25,7

Table 8 – Cloze B: Percentages

passive and bilinguals do not; the opposite occurs in (C), when 8,6% of bilinguals use the passive, but no monolingual does. This indicates that monolinguals and bilinguals process the passive construction differently, consistent with Guimarães' results (2016). Our study did not focus on the passive, nor did it have any hypotheses concerning that. Nonetheless, the processing of the passive seems to be related to the *causative-have* construction and future work can investigate this matter.

(C) Anna took her car to the nearest garage to _____					
Group	**get**	**have**	**Transitive**	**Passive**	**None**
Monolinguals	58,8	41,2	0	0	0
Bilinguals	17,1	17,1	20	8,6	37

Table 9 – Cloze C: Percentages

Item (C) has another interesting result. In this item, 37% of the bilinguals completed it with instances that were not the elicited. Monolinguals, on the other hand, only produced instances of the prototypical *causative-have* construction. This may indicate that bilinguals were 'misled' by the polissemy of the world *garage*. Their L1 has '*garagem*' as a very similar cognate, which only matches the sense of "a building where a car is kept, built next to or as part of a house"(*Cambridge Online Dictionary of English*, 2018), but not the one of "a place where cars are repaired" (idem). This last sense was the one intended, and the one according to which the monolinguals probably responded, given their answers (see Appendix B). On the contrary, bilinguals have most likely interpreted it as the first here mentioned, considering their answers, for instance "*to park it*", "*to protect it from the hailstorm.*"

(D) After his accident, Jason went to dentist to_____					
Group	**get**	**have**	**Transitive**	**Passive**	**None**
Monolinguals	52,9	35,3	11,8	0	0
Bilinguals	20	11,4	62,8	0	5,8

Table 10 – Cloze D: Percentages

As to Item (E), Table 11, it was especially relevant for our study for having the highest percentage of monolinguals using the transitive form. Their number, 35,3%, was extremely close to that of bilinguals, 37,1%. Along with items (B) and (D), this item confirms our hypotheses that monolinguals use the transitive construction with subject beneficiary, at least marginally.

(E) Vicky had an appointment with Ethan, the hairdresser, to _____					
Group	**get**	**have**	**Transitive**	**Passive**	**None**
Monolinguals	41,2	23,5	35,3	0	0
Bilinguals	20	25,7	37,1	0	17,1

Table 11 – Cloze E: Percentages

Thus, the above exposed shows that our hypotheses for this experiment was confirmed: monolinguals did use the transitive construction with semantic role assignment of beneficiary for the subject. Additionally, they might have done more than marginally, rather consistently.

Auxiliary Verb

Now, let us turn to the choice of AUXILIARY VERB, when it was made. Two verbs could have been used, namely HAVE and GET. In the five target items, monolinguals and bilinguals varied in their use. One thing remained consisted: monolinguals preferred the verb GET in all the items, from (A) to (E): 58,8%, 52,9%, 58,8%, 52,9%. Bilinguals, on the other hand, oscillated between the two. This group showed higher rates of HAVE, for items (A), (B) and (E), and of GET for item (D), and had the same percentage of both for item (C), 17,1%.

This result points to the fact that the use of the construction differs substantially for monolinguals and bilinguals. The latter seem to prefer the verb HAVE, whereas the former have a clear tendency to the use of GET. Moreover, the pedagogic instruction reported by Vilela (2009) that this verb represents a difficulty in the causation is not consistent with the data, since there seems to be no effort in any of the sentences used in the experiment.

4.3 Discussion

4.3.1 English causative construction

The details of the construction postulated in this work are in the Theoretical Background Chapter, and they are one important part of this work. It is the basis in which we have built our analysis and experimentation.

Moreover, this work also contributed to a more economical grammatical description. It does not posit underlying levels, but semantic extensions, which can be seen in the linguistic use. In this view, each pattern – construction – is autonomous, as opposed to alternatives of other patterns, notwithstanding their relation to the others in a given network of constructions. Despite all its advantages, choosing Construction Grammar as the theoretical background is not a simple task. Characterizing a construction raises a number of questions, which can not all be answered at once. These questions are exposed in the end of the present chapter, along with the suggestion that they be addressed in future work.

In addition, our results suggest that the *passive* construction is somehow related to the English *causative-have* and to the BrP *transitive of agent/beneficiary subject* (TCABS). The results of the *cloze* task showed that where the pragmatics of provision of services is possible, the passive may also emerge. That is especially true when the object is not part of the subject, for bilinguals, and when it is present, for monolinguals. For instance, in Item (A), repeated as example (75), *his beard* is part of the subject *Edward* and this type of item favored the use of the *causative-have* for BrP speakers and disfavored for monolinguals. In contrast, Item (C), repeated as example (76) (with an answer), showed the use of the passive for bilinguals, but not for monolinguals.

(75) Edward goes to the barbershop to <u>have his beard trimmed</u>

(76) Anna took her car to the garage to <u>be repaired</u>.

As the passive is present in both languages, we were able to draw a parallel. Their semantics are similar, but the pragmatics seems to be different, and therefore its processing by monolinguals and bilinguals differs also. This group has two usages for the passive, one for their L1 and the other for their L2, which overlap in some scenarios. As our experiments corroborate, bilinguals do not seem to acquire all the refinements of the English passive construction (GUIMARÃES, 2016).

That is congruent with what happens with the causative construction under study in both languages, for bilinguals. This construction exists both in English and in Portuguese, that is, it crosses languages. This indicates that there are higher order cognitive

schemes, common to both languages (and probably others). It may be that, similarly to the passive, the causative construction has more details which are not present in both languages. Despite that, from our analysis, we conclude that the semantic pole is the same – provision of services – while there is a difference in the syntactic pole. Where BrP uses an [SVO] form, English favors the [S Aux O V] form. However, English also has, as a peripheral instance, [SVO] as a less preferred possibility, as monolinguals' processing showed they accept it and produce it peripherally.

Nevertheless, the prototypical form is still taught in English schools and text-books as the **only** possible form, such as the works of Alexander (1999), Azar (2001), and Murphy (2009). No overt reference is made to the SVO, and it is used to teach that its interpretation is that of agent subject. Thus, probably because of this abundant instruction, bilinguals overgeneralize the pattern, considering it the only possible one. This generalization, understood as effect of training, may have been found in this study and is discussed in the next Section.

4.3.2   Influence of training

We aimed at replicating Vilela's (2009) findings in order to check if the effect found by her was not in fact due to the nature of the task. Her tasks resembled a pedagogic exercise, which could have strongly activated episodic memory and favored the rejection of the prototypical BrP interpretation. Although our experiment also most certainly allowed resorting to this type of memory, considering its off-line nature, it did not resemble a pedagogical task, as much as hers did. Classroom exercises, as the one used by the author, favor a preference to what seems correct, i.e. to what was taught as correct.

In contrast, in our experiment, we tried to avoid this effect. Participants were instructed to respond freely, both in the interpretation task (Experiment 1) and the *cloze* task (Experiment 2). They were also told that it was not a test, hence there was no right or wrong answer, just what they 'felt' was a good understanding or argument.

In Experiment 1, the results showed that bilinguals did not agree that transitive sentences had agent subject interpretations, expressed by the lower ratings. These indicated that they preferred the beneficiary subject interpretation, similar to the BrP. Thus, for this task, our results were different from that of Vilela's and did not indicate influence of training on how bilinguals comprehend language.

Thus, we explain the failure to replicate her results as a function of the different nature of the tasks. Vilela's ones were pedagogical and let participants use their memory of the instruction, whereas ours intended not to, and seem to have succeeded. Bilinguals seem to have interpreted the transitive sentences in English as they would interpret them in BrP.

Additionally, the materials may also have impacted these results. In Experiment 1, there were 18 critical items to 47 distractor ones, while those of Vilela did not have any distractor. The fact that all of the items had the pattern or elicited it might also have induced the recalling of the instruction. This instruction might, then, have appeared in the production and interpretation, differently from our experiment.

The results of Experiment 2 are in more accordance with that of Vilela's. In this task, there was a significant use of the transitive by bilinguals. For all the instances, this group used [SVO] patterns for the construction, and in Item (D) 62,8% of them did. This result was as expected, as bilinguals tend to overuse a structure when both their languages have it, as Gardner-Chloros (2008) points out. Nonetheless, the fact that monolinguals also used the [SVO] form was all the more revealing about the construction in the English language. It is congruent with the assumption of Goldberg (1995), that the pattern is possible when *conventionalized scenarios* of the language are being described.

The usage of the [SVO] by both bilinguals and monolinguals makes these results interesting. Bilinguals interpreted the sentences with beneficiary subject meaning and produced it at a great rate. Monolinguals, on the other hand, had higher ratings in the interpretation task, which symbolizes assignment of *agent* subject. This does not mean, however, that the subject beneficiary is completely rejected by them, as seen by their only slightly greater ratings. In the *cloze* test, they even produced instances of [SVO]. Clearly, the use of the transitive by monolinguals was considerably smaller than that of bilinguals. However, it is still significant.

Thus, we understand that CG is an adequate theory to account for our object of study. Also, as CG is strongly compatible to frequency effects in general, it accommodates well the ones observed in our data. In Experiment 1, the effect of frequency hypothesized for both groups, was only found for monolinguals. This is consistent with the fact that, having two linguistic systems in competition all the time (HARTSUIKER; PICKERING; VELTKAMP, 2004; GROSJEAN, 2010), bilinguals behave differently from their monolingual counterparts in relation to the frequency manipulations such as the one carried out here.

Additionally, as we have presented, when the prototypical form of the construction [SUBJ AUX OBJ V] was used, bilinguals and monolinguals behaved considerably differently. The former showed a tendency to prefer the auxiliary HAVE, while the latter, preferred GET. We understand that this disparity might have its origin in pedagogical instruction. Monolinguals learn the English language through use, while bilinguals normally take classes, and, for that reason, their input is probably mostly pedagogical. As to the construction, the materials used in these classes normally present the verb HAVE as the correct one, and predominantly propose exercises with its use, as can be observed in Murphy's (2009) Grammar Book. The verb GET in these materials is generally either not

mentioned, such as in the one of Alexander (1999); taught as informal, as in the one of Murphy (2009) or taught as a peripheral semantic restriction, such as in the one of Side and Wellman (2002). Therefore, the pedagogical instruction clearly emphasizes the use of HAVE which is not consistent with the real use by monolinguals, as it was observed in our study.

This influence probably does not cause problems in communication, as both forms are possible. It may, however cause a less natural use of the language. Although our experiment was limited, with only five critical items, our results are relevant. They serve to give GET a fair description, and, at least indicate that the way it is being taught does not adequately correspond to the current use.

Monolinguals' data increase the suspicion that it is due to transfer of training and sheds light into the organization of the construction of the English language. However, the term transfer, used by the Vilela (2009) is problematic, because it implies a simple process. If it were simple, in fact, bilinguals would not have produced transitives, for instance. They would have attached to the form learned by instruction. Learning a construction in an L2 is a complicated task, full of intricacies. Thus, the same effect described by the author as 'transfer of training', is understood here as 'influence of training.'

Concerning that, the experiments carried out in this study indicate that Vilela's general hypothesis that there is a great deal of influence of training in the learning of the *causative-have* construction may be true. However, the influence of training cannot be fully confirmed, due to limitations of our methodology. We did not compare learning profiles, as it would be necessary to get stronger evidence of this hypothesis.

Finally, our study has some limitations that will be described ahead.

It is important to highlight that the order of the experiments might have influenced the results. As participants responded to the interpretation task first, and immediately after it performed the *cloze* task, the *causative-have* form might have been primed, that is, the fact that it was used in Experiment 1 influenced the subsequent production in Experiment 2. Hence, this may have caused participants to use the prototypical construction.

On the other hand, both groups – among which monolinguals stood out – used the verb GET. This verb was not present in any of the items, neither critical nor distractor. Thus, the fact that participants produced instances of the construction with it is not due to priming effects. Although our items presented no instances with that verb, it still arose.

Additionally, the number of target items for Experiment 2 was considerably low. As it was done after the first, which had 65 items, it was desirable that is was not very long. Thus, there were 20 items, among critical and distractor. And, in order to use an adequate number of distractor items, only five items elicited the pattern. This small

amount of sentences does not allow us to draw definite conclusions, but indicates patterns that should be further addressed in future research.

Another lowlight of this study is that it did not control the languages spoken by the group we refer to as monolinguals. Americans were recruited, but they were never asked if they were speakers of other languages, such as Portuguese or Spanish. If they were, in fact, bilinguals, this might have affected our results. They were, however, living in an English speaking community, namely the United States of America. Thus, in the possibility of speaking other languages, their dominance was probably still English and that was their primary language, as they were all born in the USA.

Future work

In addition to all that has been indicated as subjects for future work, Construction Grammar poses a great deal of questions that deserve attention. It would be relevant, among other things, to address the following questions:

- Is the construction of agent/beneficiary subject present in other languages? Italian, French, for example. Is it a higher order cognitive pattern?

- How is this construction really structured?

- Are there other constructions in the family of the causatives? How is the passive related to them?

- What are the *specific conventionalized* scenarios that favor the use of the transitive? How do they differ for English and Portuguese?

- What is the meaning and the representation of the English *causative-have* and in what contexts this meaning can be extended to the transitive form?

We would also like to highlight the importance that these, and other questions concerning constructions, be answered based on experimental evidence and *corpora*, as we have attempted to do in this work.

Conclusion

Our study concerned the patterns of English, in (77), and Portuguese, in (78), in relation to the interpretation of the first by monolinguals and Brazilian Portuguese-English late bilinguals. We named these clausal structures as *causative-have* and *transitive construction of agent/beneficiary subject* for English and Brazilian Portuguese, respectively. We proposed that the same meaning pattern is common to both languages. We described it and reviewed its characterization in the literature.

(77) Euller had his motorcycle fixed.

(78) Euller arrumou sua moto.

Examples (77) and (78) are equivalent in meaning in English and BrP. They are the prototypical forms of the causative construction studied. In English, the form normally takes an auxiliary verb, HAVE or GET, while in BrP, it has the form of [SVO], the transitive. This is also peripherally present in the English too, as example (79) seems to be possible as a *conventionalized scenario*. In addition, evidence from the *cloze* test suggests that a phrasing such as in (80) favors the realization of the transitive instance of the construction.

(79) Euller fixed his motorcycle. (meaning that someone fixed it for him)

(80) Euller took his motorcycle to the nearest garage to <u>fix it</u>. (meaning that someone will fix it for him and in opposition to <u>*have it fixed*</u>).

Our study contributes to the characterization of the constructions of romance languages, as well as in the comparison of constructions among languages (BOAS; GONZÁLVEZ-GARCÍA, 2014). It also adds to the study of influence of training and, hence, to applying language processing studies to second language teaching. Above all, it demonstrated that a constructionist perspective (GOLDBERG, 2003) can account well for clausal patterns such as the causative constructions addressed here. In that sense, pragmatic function was an essential part of the understanding of bilingual processing and cross-linguistic generalizations.

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APPENDIX A — Experimental Items

A.1 Target Items

1. Mark is very stylish, he is always into trends.
   Last week, he had a minimalist tattoo done.
   Mark did the tattoo himself.

2. Alice is going to be maid of honor at a wedding tonight.
   This morning, she had her nails done.
   Alice did her nails herself.

3. Alex loves to put on makeup.
   Before doing so, she always has her eyebrows done.
   Alex does the eyebrows herself.

4. Isabela likes to be beautiful at all times.
   Yesterday, she cut her hair.
   She cut her hair herself.

5. Martha and Peter have been living in the same apartment for 5 years.
   Now, they are selling it.
   Martha and Peter are selling the apartment themselves.

6. Julia has been taking decoration classes.
   She is remodeling her house.
   Julia is doing the remodeling herself.

7. Anna gets used to things very easily.
   This year, she is having her house painted again.
   Anna painted the house herself.

8. Amanda looked very different a year ago.
   She used to always have her hair straightened.
   Amanda used to straighten her hair herself.

9. John's car broke down in the middle of the road yesterday.
   Today, he had it fixed.
   John fixed the car himself.

10. Molly is gathering all the material she can get to study.
    She even copied her friend's notes.
    Molly copied the notes herself.

11. Greg is very neat and tidy.
    He washes his car every week.
    Greg washes the car himself.

12. Jessica has finished her Master's thesis.
    She printed it yesterday.
    Jessica printed the thesis herself.

13. Katherine is getting ready for her best friend's wedding.
    She is having her hair highlighted.
    Katherine is highlighting her hair herself.

14. Sarah is moving to another city.
    She is then having the apartment she has here rented.
    Sarah is renting it herself.

15. Thais fell from her bike and broke her teeth, yesterday.
    Today, she had them repaired.
    Thais did the repairing herself.

16. David has been feeling unmotivated lately.
    He is redecorating his house, to freshen up the air.
    David is going to redecorate the house himself.

17. Matthew likes to look after himself.
    He trims his beard every week.
    Matthew trims his beard himself.

18. Nancy suspects her computer has a virus.
    She is scanning her computer to check.
    Nancy is scanning her computer herself.

A.1.1   Verbs: Frequency Bands

A.2   Distractor Items

19. Mary's children each had a piece of cake for breakfast. The cake was made by their mother. The cake was made by Mary.

20. Last night, a car crashed into Anna's car. Fortunately, no harm was done. Nothing bad happened.

21. Kelly had a bike accident and hurt her legs. At the hospital, her wounds were cleaned by a nurse. The professional cleaned the wounds.

22. Charles is going on a trip this week on his truck. He is very careful, and his truck was recently repaired. Charles repairs his truck himself.

23. Fernanda still remembers the old garden of her childhood. A long time ago, a supermarket was built in the area. The supermarket was built long after her childhood.

24. Brian has 7 final exams this week. He is not sleeping enough to study. Brian normally sleeps enough.

25. Mary Shelley wrote Frankenstein when she was 19. It was soon after translated to French. Mary Shelley translated the book herself.

26. There was a robbery on a jewelry store yesterday. Two men were seen with big bags of jewels. The two men robbed the store.

27. Last night, Emma fell asleep on the couch. She was carried to bed by her dad. Emma's dad carried her to bed.

28. Linda is very busy this week. This morning, she is making a lot phone calls. Linda is making a phone call right now.

29. Chef Leo is very creative. He is working on a new dish. Leo is currently creating the new dish.

30. Ellen and Frank had a car crash last week. They were driven home by the insurance company. The insurance company drove Ellen and Frank to their house.

31. Martha is having a check-up. Her blood samples were tested for many conditions. Someone tested Martha's blood samples.

32. Suzanne cares about ecological matters. She is replacing plastic bags with reusable ones. At the moment, she is replacing bags.

33. Sue goes running every morning. Today, it was raining and she did not go. It rained the whole morning.

34. Phillip can't wait to come home. He is taking his children to the movies. At the moment, Philip is not with the kids.

35. Amanda plays the piano every day. She is improving very quickly. Amanda is improving every day.

36. Alex broke his cellphone. He is getting a new one. Alex is getting a new cellphone right now.

37. Jennifer is not sure where to go on vacation. She may go to Canada. Jennifer is probably going to Canada.

38. Dennis wants to leave work early today. He is completing his tasks very fast. Dennis is completing tasks right now.

39. Maria's leg is hurt. She is not playing soccer this season. Maria has played soccer before.

40. Ann and Bill are engaged. They are getting married on the beach. Ann and Bill are getting married right now.

41. Kate enjoys radical sports. She has climbed three mountaintops so far. Kate is going to climb more mountain tops.

42. Tess is working hard lately. She has taken three important exams this month. Tess is going to take more exams this month.

43. William got a promotion. He has not told anyone. William is going to tell someone about the promotion.

44. Fred is not very healthy. He has been sick a lot in the past year, actually. Fred is going to be sick again this year.

45. Jack wants to be in the school's football team. He has practiced all the year. Jack is going to keep practicing.

46. Anne wants to be a good person and help others. She thinks she must donate to charity. Anne should donate to charity.

47. Ron has a lot of work to do today. He has had five cups of coffee. Ron is not having any more cups of coffee.

48. Richard's house has four bedrooms. Each of the bedrooms has its own bathroom. Richard's house has four bathrooms.

49. Carol's handwriting is terrible. She can hardly read it herself. Carol can't read her own writing.

50. Michael is a police officer. His job is to protect people. Michael must protect people.

51. Patricia just learned how to drive. She is not allowed to conduct alone. Patricia can drive by herself.

52. Karen is feeling sick and dizzy. She might have caught something. Karen has become ill.

53. Anthony is going to do an exchange trip. He said his parents are going to help him. Anthony's parents are going to help him.

54. Steven slept during class yesterday. He pretended to be reading. Steven faked reading.

55. Gary is on the zoo today. He was warned not to feed the animals. Gary was told not to feed the animals.

56. Liam works all day in an office. When he gets home, he has dinner and talks to his family. Liam has dinner by himself.

57. Samuel is a little clumsy. This morning he had a paper cut. Samuel cut himself.

58. Madison is very tired this week. She is considering cheating on the school assignment. Madison is not going to do the assignment herself.

59. Jade is an English teacher. Last semester, she had her students write a play. he students wrote the play themselves.

60. Samantha is sick of her job. Her boss is too picky. Samantha has not had enough herself.

61. Frederick is a lion trainer. He has just jumped the lions through the hoop. Frederick jumped through the hoop with the lions.

62. Martha is really good at equitation. In the last competition, she raced her horse over all the barriers. Martha raced over the barriers with her horse.

63. Coach Sam is very strict. Yesterday, he ran his students around the field. Coach Sam ran around the field with his students.

64. Captain Daniel is training his troops. He marched them up to the hill. Captain Daniel marched up to the hill with his troops.

65. Linda arrived home late last night. Even then she walked the dog. Linda walked last night with her dog.

APPENDIX B – Experiment 2: Cloze task

B.1   Items

Target

(A) Every Saturday morning, Edward goes to the barbershop to

(B) Marianne is going to the salon this afternoon to

(C) Anna took her car to the nearest garage to

(D) After his accident, Jason went to the dentist to

(E) Vicky had an appointment with Ethan, the hairdresser, to

distractor

(F) Early today, Barbara went to the grocery shop to

(G) After getting the test results, Shirley called her parents to

(H) Frank took his kids to the park to

(I) Because of the rain, Melissa had to stay at work until

(J) Nick is having classes with Kevin, the Math teacher, to

(K) Josh is feeling under the weather today, he should

(L) Because of college, Timothy is in real need of money, he could

(M) Before traveling to Alaska with her family, Janet must

(N) Arnold is not going out tonight, he might

(O) If Henry had more free time, he would

(P) Margaret has been watching a new show, she

(Q) Fernando has just come back from France, he

(R) Phillip has opened a new business, he

(S) Alexander has lost his camera, he

(T) Heather has started an Italian course, she

(U) Doris is not using any more plastic bags because

(V) Gloria is not going to bed late because

(W) Teresa is not eating meat because

(X) Ashley did not go on vacation this year because

(Y) Nicole went really well on the exam because

B.2   Answers Target Items – per item

(A) Every Saturday morning, Edward goes to the barbershop to:
get his beard styled; have his beard cutted; Have her beard trimmed; Get his hair trimmed; Have his hair cut; Get his beard groomed; have his beard done; have his beard trimmed; get his hair cut; Cut his beard; see his friend; have his hair cut; Have his beard done; get his hair styled; talk with his friend; trim his beard; trim his beard; have his beard shaved; Shave; have his beard groomed; shave his beard; shave; Get a shape up; get a shave and a haircut; sing in the barbershop quartet; get his hair cut; get a hair cut; have his beard trimmed; Have his beard trimmed; shape his beard; get his hair cut; get his hair cut; have his beard trimmed; Hang out; Have a shave; have his hair cut; be better appearance; feel good about himself; get his beard done; Get a trim; Have his beard cut; get his hair cut; Have his hair done; see his friends; be shaved; Deliver mail; get a hair cut; Get his beard done; get a haircut; have his beard trimmed; get his beard done; to get a neat cut.

(B) Marianne is going to the salon this afternoon to:
have her nails done; have her hair straightened and painted; Have her hair cut; Get her hair done; Get her nails done; Have her hair done; make her nails; get her nails done; get her nails done; Cut her hair; have her hair done; highlight her hair; Have her nails done; fix her hair; meet her friend; get her nails done; highlight her hair; have her hair cut; Get her nails done; get her nails done; dye her hair; a haircut; Get her hair done; get a hair cut; talk about French enlightenment ideals; have her nails done; dye her hair; get her nails done; Get her nails done; have her hair cut; have her nails done; have her nails done; have her hair cut; Get her hair done; Have her nails done; have her nails done; cut her hair; dance; Get her nails done; Have her hair done; get her hair done; Get her hair done; work; get her hair done; Get her hair done; get her hair done; Get her eyebrows done; dye her hair blonde; have a haircut; get her nails done; gossip around.

(C) Anna took her car to the nearest garage to:

park it; call someone in order to have her car towed; Go to her parents' house; Park it; Get it fixed; Have it repaired; park there; get the headlight fixed; get it fixed; Get it repaired; have it fixed; fix the problem; Park it fast; be repaired; get her bag that she left there; park; leave it there for the night; see if the tires were stuck; Get it fixed; have that noise checked; have it fixed; to wash; Get it fixed; get her oil changed; get it fixed; have it fixed; have it repaired; get it fixed; Get it fixed; be repaired; get it repaired; have the oil changed; have the engine looked at; Change The tires; Have it repaired; clean it; park her car safety; his house; Get it repaired; Be repaired; have it checked out; Get her windshield fix; be repared; get it fixed; Have it fixed; get an oil change; Get it fixed; get it fixed; get it fixed; wash it; to avoid the hail storm.

(D) After his accident, Jason went to the dentist to:

get them repaired; repair all the damage suffered with that accident; Repair the broken teeth; Get his chipped tooth fixed; Get his teeth fixed; Have his dentures implanted; fix his teeth; get his teeth fixed; get his teeth fixed; Get his teeth repaired; fix his teeth; fix his teeth; Have his teeth fixed; fix his tooth; fixed his teeth; fix his teeth; fix his broken tooth; have his teeth replaced; Fix his tooth; restore his front teeth; fix his teeth; query; Fix his teeth; have his teeth fixed; get dentures; have his teeth fixed; have his teeth checked; glue back his teeth; Get his tooth repaired; repair his tooth; have his teeth fixed; get his teeth repaired; have his teeth cleaned; Fix his teeth; Have his teeth repaired; repair his teeth; fix his tooth; fix his theeth; Get his teeth fixed; Get his teeth fixed; have his teeth fixed; Fix the croocked teeth; clean his teeth; get his teeth fixed; Get his teeth repaired; repair his tooth; Get his tooth fixed; check if his teeth are okay; get his teeth repaired; get his teeth reparied; get a tooth repair.

(E) Vicky had an appointment with Ethan, the hairdresser, to:

get a new haircut; have her hair cutted; Get a better look; Get her hair done; Get her hair colored; Trim up her hair; cut her hair; get a pixie cut; get her hair cut; Cut her hair; have her hair done; paint her hair; Have a new haircut; get a new haircut; discuss her hair; talk about her new haircut; have a haircut; highlight her hair; Cut her hair; fix the bad haircut she had gotten before; cut her hair; a haircut; get her hair done; dye her hair black; get a haircut; cut her hair; have her hair styled; get her hair cut; Get her hair cut; have her hair cut; have her hair colored; dye her hair red; have her hair colored; Get her hair done; Colour her hair; choose a new hair color; get better; cut more hair; Have her hair styled; Have her hair done; get her hair done; Cut her hair; have her hair done; highlight her hair; Dye her hair purple; color her hair; Get his hair cut; get a trim; have a haircut; cut her hair; highlight her hair.