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Finite and non-finite complements of belief predicates in European and Brazilian Portuguese – qualitative and quantitative tendencies and contrasts

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This paper investigates the two main belief (or doxastic) verbs *acreditar* and *crer* in European and Brazilian Portuguese. The focus of the study is on the selection patterns of these two verbs, taking into account semantic as well as syntactic aspects. Studying the selectional peculiarities of finite and non-finite structures in both varieties from a qualitative and quantitative perspective sheds light on a modal domain that is prone to a high degree of variation, both on an intra-linguistic and an inter-linguistic level, and therefore reflects micro-typological variation in the Portuguese language and in Romance as a whole. In particular, we intend to verify whether the selection of finite and non-finite inflected complements may constitute a case of intra-linguistic differentiation between these two major varieties, i.e. a dynamic that points to language evolution and change in contemporary Portuguese. Our analysis is based on Davies' Web/Dialects sub-corpus, which enables a search for selection patterns determined by different person-marked matrix forms, namely *acredito/acredita* and *creio/crê*. The comparative study shows that there are clear quantitative differences in the selection of complement clause patterns with respect to both finite and non-finite, particularly inflected, structures. Of particular interest are the peculiarities and contrasts in mood alternations from a comparative perspective, as they reflect different dynamics of evolution within the contemporary language system. This specific part of the study is completed by a regression analysis of the quantitative data on mood alternations, assessing the statistical significance of crucial predictive factors. The final section summarizes the main findings of the study.

1. Introduction

As is well known, the verbs *acreditar* and *crer* are the two prototypical members of the domain of doxastic modality – the expression of belief – in Portuguese.

Semantically, belief constructions express a relation between individuals (i.e., individual anchors) and propositions. For instance, we can describe the meaning of the sentence in (1) in the following way: the sentence asserts that Pedro is in the relation of believing with respect to the proposition "that the universe is finite".

(1)   Pedro believes that the universe is finite.

We describe the semantics of the subordinate clause as the set of possible worlds doxastically accessible to Pedro, in which the proposition "the universe is finite" holds (see, e.g., Chierchia, 2008, p. 457). Mood variation in finite clauses may characterize doxastic accessibility with respect to the speaker and/or the matrix subject (as the so-called *individual anchors*).

Syntactically, both verbs can select a subordinate clause as a direct object. The direct object can be either finite or non-finite. In Portuguese, both verbs can also select for a construction with an "infinitivo flexionado", a non-finite complement clause in which the infinitive is inflected for person morphology (see Mateus et al., 1989, p. 270; Gärtner, 1998, pp. 487–488). These non-finite subordinate constructions display a subject marked with the nominative case, combined with the corresponding person agreement marker on the verb. An interesting, yet unstudied, research question concerns systematic differences and preferences in the selection patterns of the two belief predicates *acreditar* and *crer* in European and Brazilian Portuguese. This paper explores whether there are qualitative or quantitative differences in the selection of finite and non-finite complement clause structures that differentiate and distinguish European (henceforth EP) and Brazilian Portuguese (henceforth BP) in a systematic way. In line with this main concern, the study focuses on several relevant aspects, namely:

- speakers' preferences in the two varieties with respect to the choice of the belief predicate, i.e. of either *acreditar* or *crer*;
- mood selection patterns and preferences associated with the two belief predicates in finite complement clause contexts in each variety, taking into account the contrast between the first and third person and their ensuing modalizing functions;
- the constraints on the selection of non-finite, particularly inflected infinitive, complement clauses;
- and finally, the possible, yet very marginal, availability of preverbal subjects in inflected infinitive clauses selected by belief predicates in both varieties.

The complement selection properties of *acreditar* and *crer* examined in this paper with respect to the two main varieties of Portuguese are of major interest for the study of mood systems in Romance in general, given the high degree of micro-typological variation in the domain of doxastic modality. This variation can be described as a continuum that ranges from Italian to Romanian as the two opposite poles: while belief predicates in Romanian generally select the indicative, even in contexts of negation, Standard Italian has a strong bias towards marking doxastic modality with the subjunctive mood in all contexts (see Becker, 2015, 2020). The doxastic system of Portuguese occupies an intermediate position between the two poles, still to be delimited and defined. Our analysis suggests that the Portuguese varieties represent different states of a language-internal dynamics of evolution and differentiation. BP is much more prone to the selection of the subjunctive in the domain of doxastic modality than its European counterpart, the latter clearly converging towards the modern Spanish system. In summary, our analysis demonstrates that studying the synchronic variation between these two varieties of Portuguese can shed light on evolutionary trends and dynamics of change within a specific domain of the contemporary Portuguese language system.

Note that the verb *achar* has not been integrated into our analysis for several reasons that warrant brief elucidation. It is important to emphasize that *achar* differs significantly from *acreditar* and *crer* in terms of syntactic, semantic, and discourse-functional aspects. While *achar* also subcategorizes for complement clauses (e.g., *acho que p*), it is frequently and typically used in transitive-predicative constructions (e.g., *achar difícil/bom uma coisa*), unlike *acreditar* and *crer*. In contrast to *acreditar* and *crer*, the verb *achar* is polysemous, possessing (1) an objective-propositional meaning (*achar que/uma coisa* = 'find out that/something'), (2) an epistemic meaning (*achar que p*, *achar difícil uma coisa* = 'think that', 'consider something difficult'), and (3), as a parenthetical expression (*p, eu acho*, with flexible position), the function of a discourse marker signaling uncertainty, doubt, or probability (for the different meanings of *achar*, see Pinto, 2023, p. 485). More importantly, the epistemic reading of *achar* differs from the doxastic meaning of *acreditar* and *crer*, although the semantic difference is gradual and there are undoubtedly zones of overlap. This epistemic meaning is also more recent and is the result of a process that combines grammaticalization and subjectification (see Pinto, 2023, pp. 495–502 and the summary, 502f.). Epistemic *achar*, which generally functions as a performative modalizer (*eu acho que p*), announces the speaker's commitment to a proposition and marks the subjectivity of his stance. With *achar*, a more situationally/contextually conditioned opinion or point of view is put forward, whereas the doxastic verbs *acreditar* and *crer* thematize more deeply entrenched and substantial beliefs and convictions. Doxastic predicates presuppose and may evoke some kind of evidential background and may raise the issue of the subjective or intersubjective accessibility of belief contents. Epistemic *achar*, on the other hand, merely marks some propositional content as subjective, i.e., as a personal stance.

For our analysis, we made use of the Web/Dialects sub-corpus of the extensive *Corpus do Português*, created by Mark Davies (Davies, 2016–). The Web/Dialects sub-corpus contains approximately one billion words of Portuguese, drawn from an extensive number of web pages across Portuguese-speaking countries (see https://www.corpusdoportugues.org/web-dial/), and constitutes, therefore, a highly rich basis for comparative studies between the two varieties under discussion. The part-of-speech (POS) annotation of the corpus allows pattern searches, which provide – albeit with some limitations – a detailed insight into the quantitative and qualitative peculiarities of the complement clauses selected by the two belief predicates under discussion. For reasons that will be exposed in the relevant subsections of our data analysis, we limited our query to complement clauses selected by first and third person morphology on *acreditar* and *crer* (i.e. *acredito/acredita* vs. *creio/crê*). The "blind" automatic identification of patterns made it necessary to check all query results manually and to correct some of the results due to labelling errors (especially in the case of some indicative verb forms categorized as subjunctive, e.g., *pode, podem,* and *podemos*). **Table 1** gives an impression of the size and relative weight of the two sub-corpora of the Web/Dialects corpus.

Corpus Web/dialects	Brazilian Portuguese	European Portuguese	Total
Words	558.357.341 words	270.234.249 words	828.591.590
Percentage	67.4%	32.6%	100%

Table 1: Corpus do Português: Web/Dialect corpus, share of BP and EP.

This paper is structured as follows. In Section 2, the state of the art with respect to the semantic and syntactic aspects of belief constructions is presented. Section 3 analyses and discusses the frequency distributions of belief constructions in connection with their different complement clause selection patterns in EP and BP. Mood alternations and possible semantic differences regarding the belief constructions in both varieties under scrutiny are the focus of Section 4. This section also includes a regression analysis that assesses the statistical significance of predictive factors for mood selection. Section 5 deals with syntactic aspects of non-finite, especially (overtly) marked, inflected infinitive complement clauses from a comparative perspective. While Section 5.1 is concerned with typical patterns of verbal combinations, Section 5.2 examines subject placement in inflected infinitive clauses. A conclusion (Section 6) summarizes the main findings of the paper.

2. Belief predicates and complement clause selection

The semantics and variation in mood selection in the Portuguese system have received little attention. The fact that Portuguese – in contrast to Catalan (see Quer, 1998, pp. 44–46, 83f.) and Spanish (see Delbecque/Lamiroy, 1999, 2008f.) – admits the subjunctive in affirmative sentences

has not passed unnoticed by two of the very few descriptive studies on mood alternation in Portuguese. Gärtner, for Portuguese in general (1989, pp. 138, 141), and Wherrit (1977), in a study on the subjunctive in Brazilian Portuguese, quote a few cases that attest to uses of the subjunctive in affirmative contexts determined by doxastic predicates (see, e.g., Wherrit, 1977, p. 64; see also Becker, 2010, for a synthesis of mood in Portuguese). These singular and sporadic examples suggest that the subjunctive is selected by speakers in cases of weak belief (as in 2) or wrong belief (as in 3).

(2) *Ela   acredita   que as flores sejam   a *causa   da
     PRO.she believe.IND.3.SG that the flowers be.SUBJ.3.PL the cause of.the
     alergia.
     allergy'
     'She believes that the flowers may be the cause of the allergy'
     (quoted from Gärtner, 1989, p. 138)

(3) *Ah, eu   não sabia,   pensei   que fosse   ele.*
     Ah PRO.I not know.IMP.3.SG think.PPS.1.SG that be.SUBJ.IMP.3.SG PRO.him
     'Ah, I did not know, I thought that it was him' (quoted from Wherritt, 1977, p. 64)

Becker (2020) discusses formal-semantic properties that are relevant for a description of mood selection in the domain of doxastic predicates. He focuses on the mood contrasts between the indicative and the subjunctive in Brazilian Portuguese in terms of speaker commitment and non-commitment (see especially Becker, 2020, pp. 4720–4722). The scope of the study remains restricted, as it is based on a qualitative analysis of a small number of occurrences and focuses on the formal-semantic description. Therefore, the innovative character of the present contribution lies in the incorporation of a significantly larger amount of quantitative data.

The small number of studies analyzing semantic aspects of complementation in the domain of doxastic predicates contrasts strongly with the lively research interest in syntactic aspects, especially as regards the inflected infinitive selected by verbal predicates in Portuguese,[1] including the doxastic sub-class. In particular, the generative strand of research has been concerned with: a) the availability of inflected and non-inflected infinitives in accordance with the syntactic and lexical properties of different verb classes, and b) the mechanism of nominative case assignment in contexts of inflected infinitive clauses, which is closely linked to the issue of pre- or postverbal subject placement within these inflected infinitive clauses. For our concerns, only certain aspects and considerations of generative research are relevant.

As for the availability of research on inflected infinitive complement clauses, Mira Mateus et al. (1989, p. 270ff.) point out that doxastic and epistemic verbs ("verbs of mental activity"

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[1] For other categories that may select inflected infinitive clauses, see Granvik (2017) for nominal complement clauses and Vanderschueren & Diependaele (2013) for adverbial clauses.

like "our verbs" *acreditar* and *crer*), along with declarative verbs (*dizer* 'say', *declarar* 'declare', and *prometer* 'promise') belong to the core group of verbs which allow inflected infinitive complements, along with factive-evaluative (*lamentar* 'regret'), causative (*mandar* 'order'), and perception verbs (like *ver* 'see' and *ouvir* 'hear').[2] The availability of inflected infinitives seems to be linked to the parameter of temporal independence (Ambar, 2007) and, more specifically, to the property of being neutral with respect to the temporal orientation of the clause. An embedded clause is neutral in its temporal orientation if the subordinate and matrix clauses do not depend on the same reference point (Silvano, 2002; Gonçalves, Cunha & Silvano, 2010; Gonçalves, Santos & Duarte, 2014). Embedded sentences selected by doxastic predicates are neutral with regard to their temporal orientation in that the state of belief holding on the part of the matrix subject and the content of belief are independent of each other – beliefs may refer to a past, a present, or a future state of affairs.[3] However, lexical properties also play an important role in the acceptability of inflected infinitive clauses in contexts determined by belief predicates. Conspicuously, doxastic/epistemic predicates are incompatible with the inflected infinitives of eventive verbs whenever these yield a single event reading. Conversely, belief predicates ideally match the inflected infinitives of stative verbs or contexts that are prone to a generic/habitual reading (for other possible constellations see Ambar, 1994, p. 12). This contrast – eventive vs. stative – is illustrated by the following pair of examples:

(4) **Penso   comprarem   eles   o   livro.*
     think.IND.1.SG buy.INF.AGR.3.PL PRO.3.PL the   book
     'I think that they bought the book' (Ambar 1994: 1, ex. 1)

(5) *Penso   estarem   eles   em   casa.*
     think.IND.1.SG be.INF.AGR.3.PL. PRO.3.PL at   home)
     'I think that they are home' (Ambar, 1994, p. 14, ex. 14)

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[2] For more subtle differences between inflected infinitives of perceptive versus causative constructions, see Bossaglia (2013: 220 ff). Some varieties (e.g., Mozambican Portuguese) also allow so-called pseudo-inflected infinitives with desiderative verbs like *querer* and *desejar*. In general, the extent of use of inflected infinitives is greater in Old and Classical Portuguese than in contemporary Portuguese. For further details see Martins (2001: 214–218) and Fiéis & Madeira (2017, especially pp. 282, 286 f., 290).

[3] This contrasts with volitive predicates that introduce a reference point (the moment of the intentional act of wishing) in relation to which a posterior time point of wish-fulfilling (in preferred possible future worlds) is projected. Consider the ungrammaticality of the inflected infinitive for future-oriented volitive (bouletic) predicates:

(14) *Os pais quiseram os filhos viajarem/viajarem os filhos de comboio
     (The parents want.past.3.PL the children travel.INF.AGR:3.PL by train)
     'The parents wanted the children to travel by train'
     (See Gonçalves, Santos & Duarte 2014: 13, ex. 31a and 31b.)

As we will see in Section 5.1, these observations will be confirmed by our empirical study. Regarding nominative case assignment and subject position in inflected infinitive clauses, we will not go into detail, as our focus is not on the various approaches that propose syntactic mechanisms to explain the (non-)availability of preverbal subjects in inflected infinitive clauses (see, especially, Raposo, 1987, p. 90ff.; Ambar, 1994; Müller & Riemer, 1998, pp. 176–180; Mensching, 2000, p. 117ff.). All approaches agree that infinitive clauses selected by doxastic/ epistemic predicates generally do not allow for preverbal subjects, given that they are subcategorized for another type of syntactic category than, for instance, embedded infinitive clauses of factive-emotive predicates. Compare the following contrast between *lamentar* 'regret', which selects an IP, and the epistemic *pensar* and declarative *afirmar*, which select CPs (see Müller & Riemer, 1998, p. 179f.; Mensching, 2000, p. 158):

(6) *Lamentou   essas atividades serem   úteis   para o   país*
     regret.PPS.3.SG these activities be.INF.AGR.3.PL   useful for   the   country
     'He regretted that these activities were useful for the country'

(7) **Eu   penso/afirmo   os   deputados terem*
     I.PRO think.IND.1.SG/say.IND.1.SG the   deputies   have.AUX.INF.AGR.3.PL
     trabalhado pouco
     work.PP   little
     'I think/I claim that the deputies have worked little' (Müller & Riemer, 1998, p. 179)

Although we are not concerned in our paper with the debate on the syntactic mechanisms (especially the AUX-to-COM movement hypothesis) that have been developed in order to account for the availability of preverbal subjects (compare the discussion in Mensching, 2000, p. 117f. with that in Raposo, 1987, p. 90ff.)[4], the predicted consequences are of crucial importance. The mechanisms invoked by the generative literature can only account for categorial results. We would therefore expect that preverbal subjects are generally not available in the case of belief predicates. However, as the empirical data in Section 5.2 will show, this prediction does not hold.

3. Belief predicates and complement clause selection – a quantitative analysis

In this section, we study, analyse, and discuss the frequencies of the competing belief constructions in the European and Brazilian varieties of Portuguese. We are particularly interested in identifying quantitative differences in the selection of the matrix verb and

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[4] Mensching claims in his analysis that, in Modern Portuguese (as well as in Galician), postverbal subjects in infinitive constructions remain in their base position. At the same time, "the infinitive moves to T^0, with a further movement to Agr^0 accepted by some speakers." (For details, see Mensching 2000: 119).

complement patterns between European and Brazilian Portuguese. In Section 3.1, we analyse general trends concerning the distribution patterns of finite and non-finite constructions selected by *acreditar* and *crer*. In Section 3.2, we study the selectional patterns of the belief predicates marked by first and third person morphology (*acredito/acredita* and *creio/crê*) in both varieties.

Semantically, the first person singular uses of our verbs (*acredito* or *creio*) indicate the extent to which the speaker wants to commit him or herself to the truthfulness of the proposition under consideration, i.e., to the probability that the state of affairs the proposition *p* refers to holds (*speaker modalization*). Third person forms (*acredita* or *crê*) signal that the propositional content of *p* goes back to a different source, whose reliability can vary with respect to its type and quality, depending on the supporting evidence (*third person belief reports*). Syntactically, we can distinguish between the selection of finite clauses and (inflected) non-finite complement clauses. As is known, (inflected) non-finite clauses can exhibit overt (2SG and 2PL in EP, 1PL and 3PL in both varieties) and non-overt (1SG and 3SG) person agreement. It is plausible to assume that all non-finite constructions are of the same type, i.e., apart from finite complement clauses, doxastic predicates select a uniform non-finite complement clause category that is inflected. This amounts to saying that infinitives of the third person singular are analysed as zero-marked forms. As regards finite clauses, the matrix verbs of belief can either select an indicative complement clause or a subjunctive complement clause.

In order to analyse the distribution of the two belief predicates across the two varieties, we compared the frequency of all occurrences (i.e., of all TAM forms) of *acreditar que* with the corresponding number of *crer que* constructions in both varieties.

Words in sub-corpora	BP		EP	
	Frequency	Per million words	Frequency	Per million words
V1: ACREDITAR que	144949	259.8	50183	185
V2: CRER que	42144	75.5	19303	71.5

Table 2: Distribution of belief predicates in the CdP.

Table 2 shows that modalization is realized overwhelmingly with the expression *acreditar que* in both varieties (in more than 70% of the cases). The verb *crer* is somewhat more frequent in European Portuguese than in Brazilian Portuguese. What is striking, however, is the fact that *acreditar* has, in general, a much higher presence in Brazilian Portuguese, with about 260 occurrences per one million words, in contrast to only 185 occurrences per one million words in European Portuguese.

Logistic models with variety as a single predictor were run to test whether the relative frequency of each verb is independent of the language variety. The model for *acreditar* allows us to reject this hypothesis: *acreditar que* occurs significantly less frequently in European Portuguese than in Brazilian Portuguese (logit difference = –0.34, se = 0.005, p < 0.001). The same is true for *crer que*, albeit with a much smaller difference and a marginally larger degree of uncertainty around the estimate of this difference (logit difference = –0.05, se = 0.008, p < 0.001).

The overall result amounts to the fact that speakers of Brazilian Portuguese seem to modalize an utterance much more frequently by resorting to a doxastic verb construction with *acreditar que* and *crer que* than do speakers of European Portuguese and, when doing so, they overwhelmingly fall back on the verb *acreditar*. Whether the Brazilian speakers generally modalize more or whether the speakers of European Portuguese exploit alternative devices in order to modalize their utterances is a question we cannot answer in this paper.[5]

In the following, we would like to take a closer look at the relationship between the doxastic verbs under scrutiny and the complement clause patterns typically selected in both varieties, Brazilian and European Portuguese. We are going to take into consideration the following aspects:

- Morphological person and in particular, first vs. third person forms of *acreditar* and *crer*, removing the addressee-oriented occurrences of *você acredita* from the Brazilian data in order to compare data of the same type in both varieties, i.e., either speaker modalization (first person), or modalization by a source that is neither speaker nor addressee (third person belief reports). This means that second person occurrences (EP: *tu acreditas* and BP: *você acredita*) were excluded from our sample.

- Secondly, we were interested in the distribution of finite and non-finite complement clauses selected by the two belief predicates *acreditar* and *crer* between varieties.

- Thirdly, we compared the relationship between zero-marked infinitives (i.e., of the third person singular: *acredita/crê ser-ø*) and explicitly marked, i.e., inflected, infinitives (2SG *seres* in EP, 1PL *sermos* and 3PL *serem*) in both varieties of Portuguese. We considered patterns such as *acredita serem muitos alunos*, but also patterns with negation, i.e., *acredita não serem muitos alunos*.

Let us first consider the first research question. There are some very accentuated preferences in the distribution of the personal forms in EP and BP, as shown in **Tables 3** and **4**. In both varieties, first person singular constructions of belief predicates clearly prevail over third person singular constructions, with an overwhelming dominance of *creio que* over *crê que*. While the

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[5] Interestingly, we find the same result for *acho que* in the CdP. The ratio is 305.6 per million for BP to 222.8 per million for EP. This result corroborates the hypothesis that modalization by doxastic predicates is clearly more frequent in BP than in EP.

ratio between *acredito* and *acredita* is approximately 7:3 (71.7%: 28.3%) in BP and 2:1 (68%: 32%) in EP, the ratio between *creio* and *crê* is 94:6 (5.9%: 94.1%) in BP and 97:3 in EP (97.4%: 2.6%). It is even more insightful to consider the relative weight of the forms. *Acredito que* is more frequent than *creio que* in both varieties when it comes to modalizing the belief content of the speaker. The expression *creio que* has the same weight (approximately 53 occurrences per one million) in both varieties, whereas *acredito que* is much more frequent in BP than in EP (115 occurrences per million in BP vs. 67 per million in EP). *Acredita que*, on the other hand, represents the general option if the speaker wants to refer to propositional content that reflects the epistemic model of a third party. In contrast to *acredita que*, the expression *crê que* turns out to be a very rare alternative in both varieties – it is almost marginal in EP, with less than half the frequency displayed in Brazilian Portuguese (3.3 per million in BP versus 1.4 per million in EP).

	BP		EP	
	Frequency	**Per million words**	**Frequency**	**Per million words**
acredito que (finite)	64 276	115.2	18 137	67.2
acredita que (finite)[6]	23 065	41.3	8 386	31.1
TOTAL	89 587	156.5	26 523	98.2
Ratio *acredito : acredita*	71.7% : 28.3%		68.3% : 31.7%	

Table 3: *acreditar* – person distribution over varieties.

	BP		EP	
	Frequency	**Per million words**	**Frequency**	**Per million words**
creio que (finite)	30 044	53.8	14 511	53.7
*crê que (*finite)[7]	1 607	3.3	374	1.4
TOTAL	31 651	56.7	14 885	55.1
Ratio *creio : crê*	94.9% : 5.1%		97.5% : 2.5%	

Table 4: *crer* – person distribution over varieties.

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[6] We subtracted the second person *você (não) acredita* forms: 25,311 – 2,141 (*você*) – 99 (*você não*) = 23,065.

[7] As in the case of *acredita que*, we subtracted the *você (não) crê* cases in the Brazilian variety: 1,831 (*crê*) – 210 (*você crê*) – 14 (*você não crê*) = 1,607.

We now address the question of whether differences can be observed in the selection of non-finite structures by the two belief predicates in the two varieties. **Tables 5** and **6** show the distribution of finite and non-finite complements in relation to belief predicate and variety. In general, we note that non-finite structures are much rarer than finite subordinate complement clauses in the domain of belief predicates. Only between 3.7% and 6.4% of the complements selected by the doxastic predicates are non-finite. This is all the more interesting as the Portuguese language system allows for subject and even person morphology in this particular type of embedded clause. However, as we will see in Section 5.1, doxastic predicates impose particular constraints on non-finite complements. This means that the propositional contents of belief states are generally coded as finite structures – they may exceptionally be coded as non-finite structures under specific conditions. **Tables 5** and **6** show that non-finite complements selected by *acredito/a* are slightly more frequent in the Brazilian variety than in the European one. The reverse result holds for the forms *creio* and *crê* – with regard to the latter predicate, the European variety clearly scores higher (with 6.4%) than the Brazilian variety (with 4.4%).

	BP		EP	
	Frequency	**Per million words**	**Frequency**	**Per million words**
acredito/a **(finite)**	87 341	156.5	26 523	98.2
acredito/a **(non-finite)**	4 368	7.8	1018	3.8
Ratio finite : non-finite	95.2% : 4.8%		96.3% : 3.7%	

Table 5: *acredito/a* and complements.

	BP		EP	
	Frequency	**Per million words**	**Frequency**	**Per million words**
creio/crê **(finite)**	31 651	56.7	14 885	55.1
creio/crê **(non-finite)**	1 451	2.6	1 020	3.8
Ratio finite : non-finite	95.6% : 4.4%		93.6% : 6.4%	

Table 6: *creio/crê* and complements.

We also took stock of the relationship between person morphology of the predicates and the complement types in the two varieties of Portuguese, as shown in **Tables 7** to **10**. The selection of non-finite complements in combination with *acredito* is higher in BP than in EP (3.5% vs. 2.3%), whereas the opposite holds for *creio*, which selects a non-finite complement more often in EP than in BP (5.7% vs. 3.9%). The relative frequencies (per one million words) echo the deeply entrenched character of *acredito* as an expression of subjective, speaker-oriented modalisation in BP (with 4.2 occurrences per million), even in the domain of infinitival complements. Additionally, there is a clear preference for *creio* (with 3.2 occurrences per million) in EP.

	BP		EP	
	Frequency	**Per million words**	**Frequency**	**Per million words**
acredito que (finite)	64 276	115.2	18 137	67.2
acredito ((*não*) infinitive)[8]	2 346	4.2	418	1.5
Ratio finite : non-finite	96.5% : 3.5%		97.7% : 2.3%	

Table 7: *acredito* and complements.

	BP		EP	
	Frequency	**Per million words**	**Frequency**	**Per million words**
creio que (finite)	30 044	53.8	14 511	53.7
creio ((*não*) *ser*)[9]	1 235	2.2	872	3.2
Ratio finite : non-finite	96.1% : 3.9%		94.3% : 5.7%	

Table 8: *creio* and complements.

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[8] The partial results are: BP: *acredito + ser*: 2,186, *acredito + não ser*: 160 = 2,346; EP: *acredito + ser*: 390, *acredito + não ser*: 28 = 418.

[9] The partial results are: BP: *creio + ser*: 1,104, *creio + não ser*: 131 = 1,235; EP: *creio + ser*: 742, *creio + não ser*: 130 = 872.

	BP		EP	
	Frequency	**Per million words**	**Frequency**	**Per million words**
acredita que (finite)[10]	23 065	41.3	8 386	31.1
acredita ((*não*) infinitive)[11]	2 022	3.6	600	2.2
Ratio finite : non-finite	91.9% : 8.1%		93.3% : 6.7%	

Table 9: *acredita* and complements.

	BP		EP	
	Frequency	**Per million words**	**Frequency**	**Per million words**
crê que (finite)[12]	1 607	3.3	374	1.4
crê ((*não*) *ser*)[13]	216	0.4	148	0.5
Ratio finite : non-finite	88.2% : 11.8%		71.6% : 28.4%	

Table 10: *crê* and complements.

Interestingly, non-finite complements are selected more frequently in the third person than in the first person form; the proportions are 3.5% (BP) and 2.3% (EP) for *acredito* vs. 8.1% (BP) and 6.7% (EP) for *acredita*. The rarest matrix form, *crê*, scores the highest percentage in the domain of non-finite complements, with 11.8% in BP and 28.4% in EP. An interesting question is why the third person singular is, in general, more prone to non-finite complements than the first person in Portuguese and, more specifically, why *crê* is considerably more amenable to infinitival complements. For the time being, we cannot offer a conclusive answer to this question, which warrants more in-depth future research.

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[10] We subtracted the second person *você (não) acredita* forms: 25,311 – 2,141 (*você*) – 99 (*você não*) = 23,065.

[11] For BP *acredita* we also subtracted the *você* cases: BP: *acredita + ser*: 2,124, *acredita + não ser*: 60 = 2,184 – 159 (*você acredita*) – 3 (*você não acredita*) = 2,022; EP: *acredita + ser*: 584, *acredita + não ser*: 16.

[12] As in the case of *acredita que*, we subtracted the *você (não) crê* cases in the Brazilian variety: 1,831 (*crê*) – 210 (*você crê*) – 14 (*você não crê*) = 1,607.

[13] BP: *crê + ser*: 222, *crer + não ser*: 7 = 229 –13 (*você acredita*) = 216; EP: *crê + ser*: 146, *crê + não ser*: 2.

Let us now consider the third research question. **Tables 11** and **12** display the relationship between overall infinitive complements and complements with overtly inflected forms (i.e., of the second singular in EP, and of the first plural and the third plural in both varieties). Inflected infinitive forms are more frequent in both varieties with *acredito/a* than with *creio/crê*. European Portuguese is characterized by a higher proportion of marked/inflected forms in relation to the overall quantity of infinitives (11.8% vs. 6.1% with *acredito/a* and 8.4% vs. 4.5% with *creio/crê*). On the other hand, *acredito/a* displays the highest quantity of marked infinitive forms per one million words in BP.

	BP		EP	
	Frequency	**Per million words**	**Frequency**	**Per million words**
acredito/a (all infinitives)	4 530	7.8	1 018	3.8
acredito/a (marked forms)	278	0.5	120	0.4
Percentage	6.1%		11.8%	

Table 11: *acredito/a* and infinitive forms.

	BP		EP	
	Frequency	**Per million words**	**Frequency**	**Per million words**
creio/crê (all infinitives)	1 451	2.6	1 020	3.8
creio/crê (marked forms)	66	0.1	86	0.3
Percentage	4.5%		8.4%	

Table 12: *creio/crê* and infinitive forms.

Finally, the first person is more frequent with an overtly inflected infinitive form than the third person singular in the case of *acreditar*, as shown in **Tables 13** and **14**. The European variant has a proportionally higher share of inflected infinitives than its Brazilian counterpart (13.9% and 10.3% vs. 7.3% and 5.2%). However, the proportion of infinitive forms calculated in relation to the benchmark of one million words is higher in BP than in EP (4.2/0.3 for *acredito* vs. 3.6/0.2 for *acredita* in BP and 1.5/0.2 vs. 2.2/0.2 in EP). This confirms the result that BP is in general more amenable to infinitive structures than EP, but that, in EP, if an infinitival construction is selected, it has a higher chance of being an overtly marked one.

	BP		EP	
	Frequency	**Per million words**	**Frequency**	**Per million words**
acredito ((*não*) infinitive)[14]	2 346	4.2	418	1.5
acredito ((*não*) *serem*)[15]	172	0.3	58	0.2
Percentage	7.3%		13.9%	

Table 13: *acredito* and infinitive forms.

	BP		EP	
	Frequency	**Per million words**	**Frequency**	**Per million words**
acredita ((*não*) infinitive)[16]	2 022	3.6	600	2.2
acredita ((*não*) *serem*)[17]	106	0.2	62	0.2
Percentage	5.2%		10.3%	

Table 14: *acredita* and infinitive forms.

In comparison to these results for *acreditar*, we find slightly different patterns for the first and third person forms of *crer* (see **Tables 15** and **16**). First of all, we observe a much higher frequency of inflected infinitives in EP, especially with the matrix form *crê*. In contrast to *acreditar*, the frequency of infinitival constructions per one million is also higher in EP than in BP (3.2% and 0.2% in EP vs. 2.2% and 0.1% in BP). However, in the case of *crê*, the frequency of inflected infinitive forms is extremely low in the European variety. These results suggest that, relatively speaking, there is a stronger preference for infinitival complements in combination with *crer* in EP. However, the extremely low frequency of inflected infinitives following *crê* in the European variety is particularly notable.

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[14] The partial results are: BP: *acredito* + *ser*: 2,186, *acredito* + *não ser*: 160 = 2,346; EP: *acredito* + *ser*: 390, *acredito* + *não ser*: 28 = 418.

[15] The precise results for the marked infinitive constructions are: BP: *acredito* + *serem*: 162, *acredito* + *não serem*: 10 = 172; EP: *acredito* + *serem*: 56, *acredito* + *não serem*: 2 = 58.

[16] For BP *acredita* we also subtracted the *você* cases: BP: *acredita* + *ser*: 2,124, *acredita* + *não ser*: 60 = 2,184 – 159 (*você acredita*) – 3 (*você não acredita*) = 2,022, EP: *acredita* + *ser*: 584, *acredita* + *não ser*: 16.

[17] Once again, we subtracted the *você* cases: BP: *acredita* + *serem*: 117, *acredita* + *não serem*: 4 = 121 – 15 (*você acredita*) = 106; EP: *acredita* + *serem*: 60, *acredita* + *não serem*: 2.

In any case, the low frequencies of inflected infinitives in both varieties (with complementary frequencies for *creio* and *crê* in EP and BP) reveal that person marking in infinitival complement clauses remains an exceptional morpho-syntactic mechanism of the Portuguese language system, both from a language-comparative and from a language-internal perspective.

	BP		EP	
	Frequency	**Per million words**	**Frequency**	**Per million words**
***creio* ((*não*) *ser*)**[18]	1 235	2.2	872	3.2
***creio* ((*não*) *serem*)**[19]	59	0.1	65	0.2
Percentage	4.8%		7.5%	

Table 15: *creio* and infinitive forms.

	BP		EP	
	Frequency	**Per million words**	**Frequency**	**Per million words**
***crê* ((*não*) *ser*)**[20]	216	0.4	148	0.5
***crê* ((*não*) *serem*)**[21]	7	1.25	21	0.08
Percentage	3.2%		14.2%	

Table 16: *crê* and infinitive forms.

In the next two sections, we will refine our analysis of the belief predicates and their selection patterns for finite and non-finite complements.

4. Finite complement clauses and mood alternation

In this section, the mood selection patterns of the belief predicates under scrutiny will be examined. We are especially concerned with variations in the mood selection patterns, taking into account the relevant verb, the person variable, and the two main varieties of Portuguese.

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[18] The partial results: BP: *creio + ser*: 1,104, *creio + não ser*: 131 = 1,235; EP: *creio + ser*: 742, *creio + não ser*: 130 = 872.

[19] More precisely: BP: *creio + serem*: 55, *creio + não serem*: 4 = 59; EP: *creio + serem*: 58, *creio + não serem*: 7 = 65.

[20] BP: *crê + ser*: 222, *crer + não ser*: 7 = 229 – 13 (*você acredita*) = 216; EP: *crê + ser*: 146, *crê + não ser*: 2.

[21] BP: *crê + serem*: 7, *crê + não serem*: 0 = 7, 0 cases of *você acredita + serem*; EP: *crê + serem*: 21, *crê + não serem*: 0.

In this context, we are also addressing the question of whether mood alternations are related to semantic differences in general and to specific semantic properties in particular. The starting point for our analysis is always the person variable of the two doxastic predicates under scrutiny.

4.1 Acredito que

We begin by studying the mood selection patterns of *acredito* and the related semantic aspects. As previously mentioned, the function of *acredito que* is to modalize the speaker's utterance, emphasizing the subjective status of the content presented. The results in **Table 17** show that the selection of the subjunctive mood with *acredito que* is very frequent in Portuguese, and, what is more, remains high even if the belief predicate is not in the scope of the negation operator (figuring as *não* 'not', *nem,* or *nem sequer*). This clearly distinguishes Portuguese from Spanish, where the indicative turns out to be the general mood in affirmative contexts selected by the equivalent expression *creo que* (see Quer, 1998, pp. 23–25, 44–46, 83–84; Delbecque & Lamiroy 1999, p. 2008f.).

If we sum up the occurrences of these mood forms for both Portuguese varieties, we can appreciate the overall distribution between the indicative and the subjunctive in Portuguese. In the overall corpus, 45.4% of the forms selected by *acredito que* are present subjunctives (16,011/35,240), whereas 54.6% (19,229/35,240) of the forms are present indicatives. The presence of the subjunctive is strong across the board, though a little bit less pronounced in Brazilian Portuguese (with a ratio of 56.8% IND to 43.2% SUBJ). In European Portuguese, the subjunctive is actually predominant after *acredito que* (47% IND: 53% SUBJ). However, negation has to be taken into account as a strong conditioning factor when it comes to mood selection. If we exclude the occurrences in the scope of negation, the presence of the subjunctive decreases to 37.8% (vs. 62.2% indicative) in BP and to 41% (vs. 59% indicative) in EP. Still, the subjunctive remains a strong option in both varieties of Portuguese.

Contexts of negation bias the selection of mood in favour of the subjunctive. Correspondingly, in both Brazilian and European Portuguese, the matrix predicate *acredito* selects the subjunctive in 84.1% of cases in BP and in 92.8% of cases in EP where it is in the scope of negation.

	BP	EP	Total
acredito + **indicative without negation**	14 873	3 733	18 606
acredito + **indicative with negation**	504	119	623
acredito + **subjunctive without negation**	9 032	2 778	11810

(Contd.)

	BP	EP	Total
acredito + subjunctive with negation	2 656	1 545	4 201
Total *acredito*	27 065	81 75	35 240
Ratio Ind : Subj	56.8% : 43.2%	47.1% : 52.9%	54.6% : 45.4%
Ratio Ind/Subj : without NEG	62.2% : 37.8%	59% : 41%	61.1% : 38.9%
Ratio Ind/Subj : only NEG	15.9% : 84.1%	7.2% : 92.8%	12.9% : 87.1%

Table 17: Mood distribution of *acredito que* in BP and EP.

The analysis of the mood selection patterns of *acredito que* suggests a clear meaning difference. The subjunctive marks an utterance as a subjective or personal stance on its belief content, as in example (8), in which the Brazilian speaker confesses his personal conviction concerning the efficiency of a monarchic regime in Brazil. Similarly, the Portuguese speaker of (9) expresses his personal opinion on the virtues of cocaine.

(8) *Acredito   que seja   o   regime   mais   eficiente   para   o Brasil*
     believe. IND.3.SG   that be.SUBJ.3.SG   the   regime   most   efficient   for   Brazil
     'I believe that (this) is the most efficient regime for Brazil'
     (CdP, Brasil: Monarquistas no jornal O GLOBO: Fôlego jovem para monarquia,
     http://www.causaimperial.org.br/?p = 2082)

(9) *Cocaina é   uma droga fascinante,   acredito   que seja*
     cocaine be. IND.3.SG   a   drug   fascinating,   believe.IND.1.SG   that be.SUBJ.3.SG
     melhor   do que   fumar   aquela   erva   fedorenta   chamada   maconha.
     better   than   smoke. INF   that   weed   stinky   called   marihuana
     'Cocaine is a fascinating drug, I think that it is better than to smoke that stinky weed called marihuana'
     (CdP, Portugal: General, Cocaína – Enciclopédia – Azarius,
     http://azarius.pt/encyclopedia/33/Coca_na/)

In contrast, the indicative is used when speakers take or claim the role of an expert or authority on a certain matter. This is the case in examples (10) and (11), in which an Egyptologist and a trainer assess a state of affairs that falls into their respective domains of expertise.

(10) *Eu   acredito   que é   de   4.000   anos   de   idade   ou   mais …*
      PRO.I believe.IND.1.SG   that be.IND.3.SG   of   4.000   years   of   age   or   more
      'I think that this is 4,000 years old or more'

(CdP, Brasil: Geral, Mistério de uma estátua egípcia faz estudiosos - Antigo Egito – Site, http://antigoegito.org/misterio-de-uma-estatua-egipcia-faz-estudiosos-quebrarem-acabeca/)

(11) *Ghilas: "Acredito   que é   um jogador de excelente qualidade e*
      Ghilas: believe.IND.1.SG that be.IND.3.SG a   player of excellent quality   and
      é   bom para reforçar   o   plantel ".
      be.IND.3.SG good for   strengthen.INF the squad
      'I think that he is a player of excellent quality and is good to strengthen the squad'
      (CdP, Portugal: General, BiBó PoRtO, carago!!: Dragões a todo o vapor na Holanda)

Generally speaking, the indicative is associated with propositional content supported by strong evidence provided by the speaker, who is, or claims to be, an expert on the matter under discussion.

4.2 Acredita que

Table 18 summarizes the mood distribution of *acredita* in BP and EP.

	BP	EP	Total
acredita + indicative[22] without negation	7412	2748	10160
acredita + indicative with negation	201	63	264
acredita + subjunctive	1636	275	1911
acredita + subjunctive with negation	447	159	606
TOTAL ACREDITA	9696	3245	12941
Ratio Ind : Subj	78.5% : 21.5%	86.6% : 13.4%	80.5% : 19.5%
Ratio Ind/Subj : without NEG	81.9% : 18.1%	90.9% : 9.1%	84.2% : 15.7%
Ratio Ind/Subj : Only NEG	31.0% : 69.0%	28.4% : 71.6%	30.3% : 69.7%

Table 18: Mood distribution of *acredita que* in BP and EP.

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[22] In order to get only the third person and not the second person address in Brazilian Portuguese as well, we subtracted the occurrences of *você acredita que* from the result. We thus get 7,613 indicative cases (*acredita que* (8,621) – (*você acredita*) 968 – (*você não acredita*) 40 = 7,613) and 2,083 subjunctive cases (*acredita que* (2,261) – (*você acredita*), 135 – (*você não acredita*) 43 = 2,083 of indicative occurrences. 8 of the 72 homonymous occurrences corresponded to *você acredita que* (especially with the verb forms *vão* and *vamos*).

Comparing **Table 18** with **Table 17** for *acredito* reveals significant differences in mood selection patterns between *acredito que* and *acredita que*. While the indicative and the subjunctive are distributed relatively evenly with *acredito que* (in affirmative contexts and, to a slightly lesser extent, in negated contexts), the indicative is overwhelming preferred with *acredita que* in both varieties. In addition, as the figures in **Table 18** show, the selection of the subjunctive turns out to be marginal in contexts without negation in EP. In this variety, the subjunctive appears in 9.1% of affirmative contexts, whereas the form occurs at nearly twice this proportion in BP (18.1%).

Although negation clearly inclines the balance in favour of the subjunctive, its impact is weaker than in the case of *acredito que*. As the figures show, the subjunctive is selected in only 2/3 of the contexts under negation in BP (69% Subj: 31% Ind), while its proportion rises to 71.6% (Ind: 28.4%) in EP.

Overall, the conclusion can be drawn that mood contrasts play a minor role in the use of *acredita que* compared to *acredito que*, especially in EP.

The relatively low number of subjunctives in subordinate clauses selected by *acredita que* reveals the very specialized, not to say residual, function of the subjunctive in third person doxastic contexts. In the European variety, the indicative is so prevalent that it appears to be the default choice for *acredita que* in affirmative contexts.

Semantically, the residual cases of the subjunctive mood indicate that the form does not signal a subjective attitude on the part of the belief holder, as is the case for *acredito que*. On the contrary, a typical example such as (12) demonstrates that representing another person's belief generally triggers the indicative, regardless of the speaker's own perspective.

(12) *O   intelectual genuinamente acredita   que é   mais   culto*
the intellectual genuinely   believe. IND.3.SG that be.IND.3.SG more cultured
e   que sabe   muito mais do que o   resto de seus concidadãos.
and that know.IND.3.SG much more than   the rest of his fellow citizens
'The intellectual genuinely believes that he is more cultured and knows much more than the rest of his fellow citizens'
(CdP, Brasil: Geral, por que, em geral, intelectuais e artistas, não – Gente de Opinião, http://www.gentedeopiniao.com.br/lerConteudo.php?news=115747)

A plausible hypothesis is that the subjunctive can (but need not) be used if the speaker clearly wants to distance himself from another person's belief or conviction. Take example (13), in which the speaker seems to resort to the subjunctive in order to highlight that the belief content he reports borders on the absurd:

(13) *Episódio: 35. Um casal sente   calafrios por   o   corpo e*
Episode: 35. A   couple feel.IND.3.SG chills   throughout the body and
acredita   que seja   o   espírito de sua filha   morta.
believe.IND.3.SG that be.SUBJ.3.SG the ghost   of their daughter dead

'A couple feel chills throughout the body and believe that it is the spirit of their dead daughter'

(CdP, Brasil: Geral, Viver até aos mil anos – Associação Académica da Uma, http://canalbio.com/pt/programas/minha-historia-de-fantasma.html)

In order to test this hypothesis, a larger sample of examples based on frequent indicative and subjunctive forms (*são, estão, seja, sejam, tem, tenha*) in the complement clause was analyzed from a qualitative perspective. A distinction was made between different types of beliefs or positions adopted a) by individuals (personal opinion), b) by groups (collective opinion/folk opinion), and c) by experts (expert judgements). The results show that mood alternations between the indicative and the subjunctive occur in both varieties under scrutiny, regardless of the type of belief or conviction expressed in the subordinate clause. This is illustrated by the following examples:

The first category corresponds to a personal/subjective opinion of an individual which can be expressed using either the subjunctive, as in example (14) and (15), or the indicative, as in examples (16) and (17).

(14) *Ever sempre acreditou   que Damen seria   a   sua alma gémea*
      Ever always believe.PPS.3.SG that Damen be.cond. 3.SG the his soul twin
      e   o   seu amor e   ainda acredita   que seja   verdade.
      and the his love and even believe.IND.3.SG that be.SUBJ.3.SG truth.
      'Ever always believed that Damen would be his soul mate and his love still believes that this is true'
      (CdP, Bloco de Devaneios: julho 2012, http://blocodedevaneios.blogspot.com/2012_07_01_archive.html, Portugal)

(15) [*E*]*ssa pessoa acredita   que onze   seja   doze,*
      this   person believe.IND.3.SG that eleven be.SUBJ.3.SG twelve
      'This person believes that eleven are twelve'
      (Teeteto – Ateus, http://ateus.net/artigos/filosofia/teeteto/, Brazil)

(16) (…) *aqueles que já   possuem   condições mentais perturbadas e*
          those   who already possess.IND.3.PL conditions mental disturbed   and
      acredita   que todos estão   contra ele, (…).
      believe. IND.3.SG that all be.IND.3.PL against him
      'those who are already mentally disturbed and believe that all are against them'
      (CdP, Cientista diz que achou onde fica o "mal" no corpo humano, http://portugalmisterioso.blogspot.com/2013/02/cientista-diz-que-achou-onde-fica-o-mal.html, Portugal)

(17) *Acredita   que os cristãos   estão   sendo enganados por líderes*
      believe.IND.3.SG that the Christians be.IND.3.SG being cheated   by leaders

que   só   pensam   em dinheiro? Não considere   esse pensamento
who only think.IND.3.PL in   money?   not   consider.IMPER this thought
como um fato   constatado.
as   a   fact proven
'He believes that the Christians are being cheated by leaders who think only in money? Do not consider this belief as a proven fact'
(CdP, A casa de Jesus – posicionamento de Renato Vargens e Abílio, http://www.ubeblogs.net/2012/08/Abilio-Santana-prosperidade-a-casa-de-Jesus.html, Brazil)

Given examples like (15), which contains an absurd belief ("eleven is equal to twelve"), it is tempting to interpret the subjunctive as a marker of the speaker's distance from the belief. However, this interpretation is challenged by the indicative examples (16) and (17) from the two varieties under examination. In these examples, questionable beliefs (such as those of the troubled minds in (16)) or contestable beliefs (as seen in (17), where the speaker clearly contradicts the person's view) are reported. It is particularly revealing that the speaker in example (18) does not use the subjunctive to distance himself from the absolutely scandalous position reported of a highly renowned scientist in the field of genetics. This points to the fact that the subjunctive is not (or is no longer) regarded as a device for signaling and highlighting the speaker's rejection of, or at least his disengagement from, the content of a belief.

(18)   *James Watson, Nobel da Medicina em 1962*, (…) *acredita   que os*
       James Watson, Nobel in   Medicine in   1962, (…) believe. IND.3.SG that the
       negros são   menos inteligentes que os brancos
       black   IND.3.PL less   intelligent   than the white')
       'James Watson, Nobel Prize winner in Medicine in 1962, believes that black people are less intelligent than white people'
       (CdP, James Watson diz que os negros são menos inteligentes que os, http://www.bolsanobolso.com/showthread.php?t = 22574, Portugal)

The results for the second category, i.e., collective opinions or folk beliefs, point in the same direction. We find cases of the indicative in EP as well as in BP, as shown in examples (19) to (21).

(19)   *Gente   que ainda acredita   que uns   são   melhores que*
       persons that still   believe. IND.3.PL that some be. IND.3.PL better   than
       outros.
       others
       'People who still believe that some are better than others'
       (Catrogas, Loureiros, Coelhones, Marios Linos, Balsemões, Borges etc). A pandilha é toda a mesma. (CdP, Mito & Realidade: Jornal Público, http://citadino.blogspot.com/2012/09/jornal-publico-um-terco-e-para-morrer.html, Portugal)

(20) *Quanto   a   a (sic!) programação,   43%   afirmam   não*
      as   to the programming,   43%   assert.IND.3.PL. not
      se reconhecerem   in the   telinha   e   23%   sentem   que
      REFL.recognize.INF.AGR.3PL in the small screen and 23% feel.IND.3.PL that
      são retratados   com   negatividade. (…). E   61%   acredita   que os
      be.IND.3.PLportray.PP with negativity   and 61% believe. IND.3.SG that the
      empresários   têm   mais   espaço do que os   trabalhadores
      entrepreneurs   have. IND.3.PL more   space than   the workers
      'As for programming, 43% say they don't recognize themselves on the small screen and
      23% feel they are portrayed negatively. And 61% believe that the entrepreneurs have
      more space than the workers'
      (CdP, Pesquisa mostra o que os brasileiros pensam da mídia,
      http://blog.airtonjo.com/2013/08/pesquisa-mostra-o-que-os-brasileiros.html, Brazil)

(21) *A   comunidade LGBT acredita   que   eles   têm   a   lei*
      the   community LGBT believe.IND.3.SG that PRO.they have. IND.3.PL the law
      por trás de eles.   Se   você   não concordar   com eles,   você
      behind of PRO.they if   pro.you not agree.FUTSUB.3SG with PRO.them, PRO.you
      está   errado.
      be.IND.3.SG wrong
      'The LGBT community believes that they are protected by the law. If you do not agree
      with them, you are wrong'
      (CdP, Heterofobia? Em evento gay nos EUA, heterossexual é agredido,
      http://acidblacknerd.wordpress.com/2013/07/14/heterofobia-em-evento-gay-nos-eua-
      heterossexual-e-agredido-por-homossexuais/, Brazil)

At the same time, however, we also encounter examples of the use of the subjunctive in both
varieties, as shown by examples (22) and (23):

(22) *A   maioria de elas   respondeu   que   acredita   que   roncar*
      the   majority of PRO.they answer.PPS.3.SG that believe. IND.3.SG that snort.INF
      seja   algo   normal (57,9%) e   apenas 39,6% reconheceram
      be.SUBJ.3.SG something normal (57.9%) and only   39.6% recognize.PPS.3.PL
      que o   ronco   possa   representar   sintoma de alguma doença.
      that the snorting can.SUBJ.3.SG represent.INF symptom of a   illness
      'The majority of them answered that they believe that snorting is something normal
      (57.9%) and only 39.6% recognized that snorting can be the symptom of an illness.'
      (CdP, 28 | janeiro | 2013 | Crianças a torto e a Direitos,
      http://criancasatortoeadireitos.wordpress.com/2013/01/28/, Portugal)

(23) *A   polícia   acredita   que   seja   muito provável que   muitos*
      the   police   believe.IND.3.SG that be.SUBJ.3.SG very   probable that many

> pais   e   irmãos   de meninas assassinadas tenhaam   ido   atrás de
> fathers and brothers of girls   assassinated have.AUX.IND.3.PL go.PP behind
> *o   Monstro   dos   Andes (…)*
> the Monster of the Andes
> 'The police believe that it is very probable that many fathers and brothers of the girls
> killed have hunted the Monster of the Andes'
> (CdP, Horror Moderno: O Monstro dos Andes | Blog O Aprendiz Verde,
> http://oaprendizverde.com.br/2013/07/10/horror-moderno-o-monstro-dos-andes, Brazil)

Interestingly, we find the same context – the summary of a survey on a specific topic – with varying moods. The indicative is selected in the survey on the role of entrepreneurs reported in (20), while the results of the survey on snoring are presented in the subjunctive mood in example (22). Controversial opinions such as the provocative and blatant elitism in (19) are marked by the indicative mood. The same holds for the critical and polemic stance of the speaker in (21), who clearly speaks out against the alleged view of the gay community. Finally, the belief of the police – as a collective – is expressed in a subjunctive sentence, although the belief holders are quite sure about their assumptions ("muito provável", 'highly probable').

The third category – expert beliefs and opinions – presents a particularly interesting picture.

Most of the belief complements are subjunctive clauses in both varieties. Although a long list of examples could be presented, only one example per variety is cited here, for the sake of brevity, in order to illustrate mood selection in this particular context.

In examples (24) and (25), the convictions of experts on their specialized topics are presented with the subjunctive mood.

(24) *A   origem de o   termo,   que a   maioria de os   etnólogos*
      the origin of the expression that the majority of the ethnologues
      acredita   que seja   originário de   o   Tupiguarani (…)
      believe.IND.3.SG that be.SUBJ.3.SG originating from the Tupiguarani (…)
      'The origin of the expression that the majority of ethnologues believes to originate from Tupiguarani …'
      (CdP, Historia da Capoeira - Associação Lusofonia, Cultura e Cidadania,
      http://lusofonia.com.pt/index.php?view = article&catid = 6%3ACPLP&id = 393%3Ahistoria-da-capoeira&option = com_content&Itemid = 29, Portugal)

(25) *Rudolff (sic !) Bultmann acredita   que tal colocação   seja   o*
      Rudolff   Bultmann believe.IND.3.SG that such composition be.SUBJ.3.SG the
      produto de a Igreja Primitiva elaborada   a partir de um pronunciamento
      product of the church primitive elaborate.PP from   a   speech
      feito   por o Cristo ressurreto.
      make.PP by a Christ resurrected

'R.B. believes that this kind of composition is the product of the original church that was worked out on the basis of a sermon given by the resurrected Christ'
(CdP, Conceito de redenção nas Escrituras | NAPEC – Apologética Cristã,
http://www.napec.org/reflexoes-teologicas/conceito-de-redencao-nas-escrituras/, Brazil)

We also spotted examples with the indicative mood, like (26); these, however, are much lower in frequency:

(26) *Por detrás de a ansiedade, que pode transformar-se em pânico,*
behind the anxiety that can.IND.3.SG transform.INF PRO.REFL in panic
a psicóloga acredita que está o aumento de a
the psychologist believe.IND.3.SG that be.IND.3.SG the increase of the
exigência de os papéis escolares e profissionais (…)
requirement of the roles at school and at work
'Behind this anxiety, which can turn into panic, the psychologist believes is the increase in requirements at school and at work'
(CdP, Geração à rasca. Insegurança desencadeia ataques de pânico, http://maria-jesuscandeias.blogspot.com/2011/09/geracao-rasca-inseguranca-desencadeia.html, Portugal)

To sum up, mood distinctions do not systematically mark degrees of distancing between the speaker and belief content of the utterance. As illustrated by our examples, even scandalous opinions or opinions contested by the speaker are frequently expressed using the indicative mood. On the other hand, it is striking that expert opinions are more frequently expressed using the subjunctive than the indicative. Furthermore, we often find mood variation in very similar contexts, as, for instance, the survey examples have illustrated.

These results suggest that the subjunctive combined with *acredita que* cannot be interpreted as a general marker of distancing by the speaker. Additionally, we can conclude that different mood selection patterns in very similar contexts highlight the significant role of inter-speaker variability in mood selection. Finally, the stronger correlation (which still requires quantification) between the subjunctive and reported beliefs and convictions (such as those of experts) may point to a quotative interpretation of the subjunctive in these contexts. In line with this hypothesis, the subjunctive would highlight the reported character of a belief that is attributable to a specific – prominent and/or authoritative – source. However, this hypothesis still needs to be tested empirically in a more detailed future study. The same applies to an alternative hypothesis (suggested by a reviewer) that the subjunctive is associated with social prestige and, therefore, is preferred in more formal speech, such as that produced by scientists.

In the next subsection, we will discuss the mood patterns of the alternative expressions *creio que* and *crê que*, highlighting their specific peculiarities in contrast to *acredito que* and *acredita que*.

4.3. Creio *que*

Strikingly, the mood selection profiles of *creio que* and *crê que* are very different in comparison to the competing forms of *acreditar*. This general observation applies particularly to the European Portuguese variety, as will become clear in the following two subsections. **Table 19** gives the results for *creio que*. We can observe, from the data in **Table 19**, that the selection of the indicative strongly prevails in both varieties, the total ratio amounting to 1:2 in favour of the indicative. This tendency is even more pronounced when taking into account the role of negation as an important factor in triggering the subjunctive mood. As indicated in **Table 19**, the proportion of the subjunctive decreases from nearly 35% to about 25% in BP, and from 30% to a residual 9% in European Portuguese, when considering only affirmative contexts. These data suggest that selection of the subjunctive after *creio que* is strongly associated with the negation operator (which manifests as *não, nem* or *nem sequer*), especially in European Portuguese. This role of the negation operator becomes all the more evident if we appreciate the fact that, in EP, the subjunctive is selected in more than 98% of the cases in which the matrix predicate is in the scope of negation. In other words, negation correlates strongly with the subjunctive mood.

Conversely, the indicative is selected in EP in more than 90% of affirmative contexts. This selection pattern of *creio que* in the European variety indicates a strong convergence between the mood systems of Spanish and Portuguese in the doxastic/epistemic domain, as we have already pointed out in the previous section. Nevertheless, approximately 9% of occurrences select the subjunctive in affirmative contexts – an option that is completely unavailable in European Spanish. Brazilian Portuguese, on the other hand, continues to exhibit a substantial proportion of subjunctives – still 1 in 4 cases – in affirmative belief contexts.

	BP	EP	Total
creio + indicative without negation	7703	3778	11481
creio + indicative with negation	177	22	199
creio + subjunctive without negation	2530	373	2903
creio + subjunctive with negation	1629	1273	2902
TOTAL *creio*	12039	5446	17485
Ratio Ind. : Subj.	65.5% : 34.5%	69.8% : 30.2%	66.8% : 33.2%
Ratio Ind. : Subj (without NEG)	75.3% : 24.7%	91% : 9%	79.8% : 20.2%
Ratio Ind. : Subj (NEG only)	9.8% : 90.2%	1.7% : 98.3%	6.4% : 93.6%

Table 19: Mood distribution of *creio que* in BP and EP.

The clear indicative bias in EP manifests itself in examples such as (27).

(27) *Creio   que é   fantástico ser   emocional e   experienciar*
      believe.IND.1 that be.IND.1.SG fantastic be.INF emotional and experience.INF
      a   vida tão totalmente. Faz   parte de o que você   é !
      the life so totally   make.IND.3.SG part of what PRO.you be.IND.3.SG
      'I think that it is fantastic to be emotional and to experience life so fully. It is part of
      who you are!'
      (CdP, Portugal: Geral. É normal ou nem por isso? | Selecções do Reader's Digest)
      (http://www.seleccoes.pt/e-normal-ou-nem-por-isso)

Although the speaker expresses a highly personal conviction about his emotions, he employs the indicative mood. In the Brazilian variety, the selection of the subjunctive is more likely in this context, as illustrated by example (28).

(28) (…) *não sei   se te   fiz   entender!   Bom,*
      not   know.IND.1.SG if PRO.you do.PPS.1.SG understand.INF good,
      creio   que seja   isso. Beijos Cara   Amiga!
      believe.IND.1.SG that be.SUBJ.3.SG this kisses beloved friend
      'I do not know whether I made you understand! Well, I think that it is this …'
      (CdP, Brasil: General, Mafalda Crescida "Blog Archive", Criando um Monstro,
      http://blog.mafaldacrescida.com.br/?p=260)

By using the subjunctive, the speaker marks his contribution to the blog as a very personal stance. The subtle differences concerning the mood selection in both varieties could be further explored in a more detailed study that combines corpus analysis results with speakers' acceptability ratings. In the occasional cases in which the speakers – optionally – choose the subjunctive, they tend to relativize the strength of a statement or to minimize its impact. Consider example (29), in which the speaker signals that his explanation should not be taken too seriously or even literally – a message highlighted by his mood selection and, in addition, by his meta-comment "rs" (for *risa* 'laughter'):

(29) *Eu sempre gostei   de arquitetura – apesar   de nunca ter*
      I always like.PPS.1.SG of architecture although never   have.AUX.INF
      estudo   para isso – creio   que seja   algo   que
      study.PP for this think.IND.1.SG that be.SUBJ.3.SG something that
      trago   de outras vidas (rs).
      bring.IND.1.SG of other   lives
      'I have always liked architecture – although I have never studied for this – I think that
      it is something I bring from other lives (lol).'
      (CdP, Portugal: Geral, A Biblioteca de Jacinto: Olhares (6) http://abibliotecadejacinto.
      blogspot.com/2009/08/olhares-6.html)

Finally, we recall that the indicative bias of *creio* results from its use in typical, quasi-formulaic Christian belief contexts and, specifically, in formulaic confessions of belief. This tradition of *credere* goes back to the Latin translation of the New Testament, as, for instance, Hieronymus' translation, the famous *Vulgate*, shows (see Becker, 2014, p. 187f.). This bias of the indicative, entrenched by a tradition of use in contexts with *creio que*, is mirrored in the following example, which is just one of many examples in Davies' Web/Dialect corpus.

(30) *"Sim, Senhor, creio   que Tu   és   o   Cristo, o   Filho*
      yes   Lord,   believe.IND.1.SG that PRO.you be. IND.2.SG the Christ the son
      de Deus, que   havia de   vir   ao   mundo" (v. 27).
      of God   that   must.IMP.3.SG come to the world
      'Yes, Lord, I believe that You are the Christ, the Son of God, who was to come into theworld'
      (CdP, Portugal: Geral, Paróquia de Cascais – Quaresma,
      http://www.paroquiadecascais.org/index.php?option=com_content&task=view&id=664&Itemid=53)

4.4. Crê que

The selection patterns of *crê que*, summarized in **Table 20**, are also quite specific in both varieties under scrutiny. To begin with, the expression *crê que* is rare in the corpus, with a frequency of only 577 occurrences. The mood ratio between the two varieties suggests that the subjunctive has even less weight with the third person than with the first person singular. Its marginal role in affirmative contexts, especially in European Portuguese, can be grasped by its minimal frequency in absolute terms, with only 16 (!) occurrences. In relative terms, we can state that the present

	BP	EP	Total
crê + **indicative**[23] **without negatio**n	304	123	427
crê + **indicative with negation**	17	4	21
crê + **subjunctive without negation**	63	16	79
crê + **subjunctive with negation**	40	10	50

(Contd.)

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[23] We again substracted the cases of *você (não) crê que* from the overall *crê que* results in Brazilian Portuguese. So for the indicative we obtain 430 – 104 (without negation) – 5 (with negation) = 321 forms and for the subjunctive 113 – 5 (without negation) – 5 (with negation) = 103 forms.

	BP	EP	Total
TOTAL *crê*	424	153	577
Ratio Ind : Subj	75.7% : 24.3%	83% : 17%	77.6% : 22.4%
Ratio Ind/Subj: without NEG	82.8% : 17.2%	88.5% : 11.5%	84.4% : 15.6%
Ratio Ind/Subj: only NEG	29.8% : 70.2%	28.6% : 71.4%	29.6% : 70.4%

Table 20: Mood distribution of *crê que* in BP and EP.

subjunctive appears in 24.3% of cases in BP and in 17% of the present tense forms in EP. This overall tendency again becomes more pronounced if we exclude contexts of negation. So, in affirmative contexts, the proportion of the subjunctive drops to 17.2% in BP and to a mere 11.5% in EP. Interestingly, negation has a strong impact in favour of the selection of the subjunctive in both varieties, increasing its use to over 70% in each. However, these results demonstrate that the indicative still maintains a relatively strong presence in contexts of negation, and suggest that there is no deterministic relationship between the subjunctive mood and the negation operator.

The marginal status of the subjunctive in affirmative contexts, especially in European Portuguese, is echoed by its very limited range of use. This raises the question of whether the subjunctive in those very rare contexts expresses a particular meaning. Does the speaker want to mark his maximum distance or dissociation from a belief content he is reporting? Note that this kind of possible residual function – an expressive marking of strong dissent from another individual's belief state – was characteristic of the evolution of the doxastic subsystem in other Romance languages, especially in French. The French subjunctive was also progressively ousted from affirmative doxastic/epistemic contexts in the 16th and early 17th centuries. In this period, the subjunctive was purely optional and served to underline the speaker's strong rebuttal of the belief content under consideration (see Becker, 2014, pp. 263–265). It seems that, at least in French, the optional and particularly expressive use of the subjunctive in affirmative belief contexts represents the last stage of an evolution that announces the complete disappearance of the form in these modal contexts.

In order to cast some light on this hypothesis, we analysed residual subjunctive uses in affirmative contexts determined by *crê que*. Note that, especially in EP, the subjunctive in affirmative contexts is absolutely marginal, with only 16 occurrences (see **Table 20**), whereas the BP data yield a slightly higher frequency of subjunctive occurrences.

Interestingly, the contexts of usage of the subjunctive in both varieties do not differ from the indicative ones. Complement clauses that express a hypothesis can be found with both subjunctive and indicative verbal forms. The modal verb *poder* occurs with both moods and expresses epistemic modality, as in (31) and (32).

(31)   *Outubro 19, 2012 NASA crê   que a   vida pode*
October 19, 2012 NASA believe.IND.3.SG that the life   can.IND.3.SG
ter   começado em o   Alentejo
have.AUX.INF begin.PP in the Alentejo
'NASA believes that life may have begun in the Alentejo'
(CdP, outubro 2012 – Regionalização, http://regioes.blogspot.com/2012_10_01_archive.html, Portugal)

(32)   (…) *pois   o seu irmão desapareceu   e   agora ele   crê*
given that his   brother disappear.PPS.1 and now   PRO.he believe.IND.3.SG
que possa   ter   sido   uma de as vítimas de os   fãs
that can.SUBJ.3.SG have.AUX.INF be.PP one of the victims of the fans
de   Cult.
of   Cult
'given that his brother has disappeared and now he believes that he may have been a victim of fans of Cult'
(CdP, janeiro | 2013 | TvCinews | Página 2,
http://tvcinews.wordpress.com/2013/01/page/2/, Portugal)

Similarly, collective convictions or folk beliefs are expressed using both moods in both EP and BP (although with differences in their frequencies, as mentioned above). The following examples, (33) and (34), illustrate the mood alternation with respect to this type of belief content in EP:

(33)   *Um número muito grande de pessoas crê   que o   dinheiro*
a   number very high   of persons believe.IND.3.SG that the money
é   a   coisa mais importante de a   vida …. . Não é
be.IND.3.SG the thing most important of the life …   not be.IND.3.SG
verdade.
truth
'A large number of people think that money is the most important thing in life … . This is not true'.
(CdP, As Mensagens do Corpo: Emoções X Dores - Florais ZED,
http://zed.com.pt/5-artigos/5070-As-Mensagens-do-Corpo-Emocoes-X-Dores.html, Portugal)

(34)   (…) *onde a   montanha sagrada parece   quase um ser   vivo   e*
where the mountain sacred   seem.IND.3.SG almost a   being alive and
se   crê   que   ela   seja   o lar de a   Deusa
pro.REFL believe.IND.3.SG that pro.she be.SUBJ.3.SG the home of the Goddess
de a   beleza …
of the beauty

'…where the holy mountain seems almost a living being and they believe that it is the home of the Goddess of beauty'
(CdP, Pambara – deoutramaneira, http://www.deoutramaneira.com/pambara.php, Portugal)

Examples (35), (36), and (37) illustrate the same mood alternation in the BP variety:

(35) *O   supersticioso   faz   o   mesmo. Ele   crê   que*
the superstitious make.IND.3.SG the same   PRO.he believe.IND.3.SG that
objetos   são   cheios   de   poder (…)
objects   be.IND.3.SG full   of   power)
'The superstitious does the same. He believes that objects are imbued with power …'
(CdP, Estudos em Gênesis – Site do Pastor,
http://www.sitedopastor.com.br/mensagens/genesis.htm, Brazil)

(36) *Muita   gente   (e   com   razão)   crê   que seja   o   mesmo*
many   people (and with   reason) believe.IND.3.SG that be.SUBJ.3.SG the   same
carro   de   sempre.
car   of   ever
'Many people (and they are right) believe that it is always the same car forever'
(CdP, Gávea: E, por isso mesmo,
http://gavea.blogspot.com/2004/10/e-por-isso-mesmo.html, Brazil)

(37) *Além   de o mais,   41%   crê   que   o   cristianismo seja   a*
beyond that   41%   believe.IND.3.SG that the Christianity be.SUBJ.3.SG the
religião   mais   próxima   a   o (sic!)   judaísmo, enquanto   32%   crê   que
religion most   close   to the   Judaism   whereas   32%   believe.IND.3.SG that
seja   o   Islã.
be.SUBJ.3.SG the Islam
'Apart from that, 41% believe that Christianity is the religion closest to Judaism, whereas 32% think that it is Islam'
(CdP, Pesquisa revela o que pensam judeus israelenses sobre os cristãos,
http://noticias.cancaonova.com/noticia.php?id=272361, Brazil)

The Brazilian examples illustrating mood selection after *crê que* show – in analogy with the selection patterns for *acredita que* – that the personal stance of the speaker does not motivate the mood alternation. In the indicative example in (35), the speaker distances himself from the false beliefs of the superstitious character that he is denouncing. In the subjunctive example in (36), on the other hand, the speaker marks explicitly (with "e com razão") that he sides with the collective conviction ("muita gente"). In example (37), however, the speaker simply reports the results of an opinion poll.

It is striking that reported expert opinions and convictions generally appear with the indicative mood in both varieties. We quote indicative examples that summarize the standpoints of philosophers like Habermas (the European Portuguese example in (38)), but also of an expert in the field of sociology (the Brazilian example in (39)):

(38) *Mas Habermas crê que isso é ignorar o*
but Habermas believe.IND.3.SG that this be.IND.3.SG ignore.INF the
fundamento de a distinção entre fictício e não-fictício, (…).
foundation of the distinction between fictional and non-fictional …
'But Habermas believes that this means ignoring the foundation … of the distinction between fictional and non-fictional'
(CdP, Um certo desdém de Habermas face a Derrida" | MLAG,
http://mlag.up.pt/?article = %E2%80%9Cum-certo-desdem-de-habermas-face-a-derrida%E2%80%9D-trabalhos-de-antropologia-e-etnologia-vol-39-1-2-1999-pp-11-32-reimpresso-em-miguens-2009-compreender-a-mente-e-o-conhecimento-pp, Portugal)

(39) *Entretanto, o sociólogo crê que são resultantes de*
meanwhile the sociologue believe.IND.3.SG that be.IND.3.SG resultant from
empréstimos provocados com possíveis convivências (…)
borrowings provoke.PP with possible coexistence
'Meanwhile, the sociologist believes that these are results from borrowings from a possible coexistence'
(CdP, Alessandra Garrido Sotero da Silva, Os caminhos da memória e o inconsciente coletivo, http://www.ciencialit.letras.ufrj.br/garrafa11/v1/alessandragarrido.html, Brazil)

A very rare example of the subjunctive in a complement clause expressing an expert opinion, or rather a hypothesis, is found in the BP example in (40).

(40) *Uma nova corrente, no entanto, crê que o mamute-columbiano*
a new line however believe.IND.3.SG that the M-C
tenha evoluído a partir de o Mamute-de-Jefferson ou de o
have.AUX.SUBJ.3.SG evolve.PP from the mammoth-de-J or from the
mamute-imperial.
mammoth-imperial
'A new line of research, however, believes that the Columbian Mammoth has evolved from the Jefferson or the Imperial Mammoth'
(CdP, Bicho Mamute – Mamutesdapedra.org,
http://www.mamutesdapedra.org/bicho_mamute.htm, Brazil)

Even rarer are examples of expert opinions marked by the subjunctive in EP, such as the one in (41).

(41) *A juíza Geilza Diniz, grande entusiasta de o projeto, crê*
      the judge G. D., great enthusiast of the project believe.IND.3.SG
      que a iniciativa possa transformar as gerações futuras
      that the initiative can. SUBJ.3.SG transform the generations future
      'The judge G.D., a great enthusiast of the project, believes that the initiative has the potential to change future generations'
      (CdP, Cidadãos Contra a Corrupção: Projecto: O que você tem a ver com, http://cidadaoscontracorrupcao.blogspot.com/2009/05/projecto-o-que-voce-tem-ver-com.html, Portugal)

What conclusions can we draw from mood alternations in affirmative contexts determined by *crê que*? As has been illustrated, neither the speaker's disagreement with nor distancing from a point of view, nor the subjective character of the propositional content of the complement clause, is a sufficient trigger for the subjunctive mood. As the quantitative data show, there is a strong bias towards the general selection of the indicative mood after *crê que*. This preference for the indicative may be strongest for expert opinions or convictions. The rare subjunctive occurrences refer to tentative hypotheses, though both moods appear with the epistemic modal *poder – pode*, as in example (40), and *possa*, as in example (41). Based on the quantitative results, we may conclude that there is an overwhelming trend that suggests the generalization of the indicative in the contexts determined by *crê que*. Thus, this doxastic expression foreshadows the convergent trends in the development of the mood systems of European Portuguese and European Spanish within the domain of doxastic modality.

4.5 A regression analysis

In this subsection, we aim to disentangle the factors that determine mood selection and test the statistical significance of their predictive power for mood choice in BP and EP. Given the focus of this paper, we are especially interested in highlighting subtle differences in mood selection patterns between the two major varieties of Portuguese. Therefore, the crucial question is whether clear-cut differences regarding mood selection patterns between EP and BP can be identified and whether these differentiating tendencies possess statistical significance.

For our quantitative analysis, we considered three variables, which were already highlighted in previous Section 4.4. These variables are:

1. Variety: Brazilian Portuguese vs. European Portuguese

2. Negation: Negated vs. non-negated and

3. Person: first person vs. third person.

In order to tease apart the three factors examined in this study and test the statistical significance of their predictive power for mood choice, we ran two logistic regression models, one for *acreditar* and one for *crêr*. We used the *glm* function in R (R Core Team, 2024) to compute models that attempt to predict mood choice using these three independent variables and their two- and three-way interactions.

Given the focus of our article, we are particularly concerned with the impact of the variable "variety". The model on *acreditar* is based on the corpus data summarized in **Table 21**.

Variety	Brazilian Portuguese				European Portuguese			
Person	1st person		3rd person		1st person		3rd person	
Negation	no	yes	no	yes	no	yes	no	yes
Indicative	14873	504	7412	201	3733	119	2748	63
Subjunctive	9032	2656	1636	447	2778	1545	275	159

Table 21: Mood variation with *acreditar* in relation to variety, negation, and person.

For ease of interpretation, we report the coefficient estimates of our models as odds ratios. **Table 22** displays a summary of the *acreditar* model.

	Mood		
Predictors	*Odds Ratios*	*CI*	*p*
(Intercept)	0.61	0.59 – 0.62	**<0.001**
Variety [EP]	1.23	1.16 – 1.30	**<0.001**
Negation [Negated]	8.68	7.86 – 9.58	**<0.001**
Person [Third]	0.36	0.34 – 0.39	**<0.001**
Variety [EP] × Negation [Negated]	2.01	1.62 – 2.50	**<0.001**
Variety [EP] × Person [Third]	0.37	0.32 – 0.43	**<0.001**
Negation [Negated] × Person [Third]	1.16	0.95 – 1.42	0.145
(Variety [EP] × Negation [Negated]) × Person [Third]	1.25	0.82 – 1.90	0.309
Observations	48181		
R^2 Tjur	0.165		

Table 22: Model summary for the *acreditar* model.

We can interpret the odd ratios against the backdrop of the model's reference level – which corresponds to Brazilian Portuguese (BP), first person (*acredito que*), without negation (non-negated). The model summary can be interpreted as follows:

- The intercept has the value of 0.61, meaning that the odds of the subjunctive being selected in BP for *acredito* in contexts without negation is 0.61 times "higher" than of the indicative being selected under the same circumstances. In other words, the choice of the subjunctive is clearly less probable than of the indicative, but it is far from rare.

- Interestingly, the odds of the subjunctive being selected under the same circumstances in EP (the matrix form being *acredito*, without negation) is 1.23 times higher (with an odds ratio of (0.61*1.23 =) 0,75) than in BP. This indicates that EP has a stronger subjunctive bias in non-negated contexts of *acredito* than BP.

- Negation is a very strong predictor for the selection of the subjunctive in both varieties. In the case of *non acredito* in BP, the odds of the complement clause being in the subjunctive are 8.68 times higher than without negation.

  In European Portuguese, the odds of the complement being in the subjunctive in contexts of *non acredito* is 12.92 (0.61*1.23*8.68*2.01 = 12.92) times higher than of the complement being in the indicative.

  Therefore, we can conclude that if negation is already a strong predictor for the selection of the subjunctive *per se*, it is a particularly strong predictor for the selection of the subjunctive in EP.

- The third person has a much stronger bias for selecting the indicative than the first person. The odds of the subjunctive being selected with the third person and under the non-negated condition are only 0.22 (0.61*0.36 = 0.22) in BP, and even less in EP, at just 0.1 (0.61*1.23*0.36*0.37 = 0.1).

  In the negated condition, the odds of the subjunctive being selected rise to 2.21 (0.61*8.68*0.36*1.16) in BP and to 1.47 (0.61*1.23*8.68*0.36*2.01*0.37*1.25) in EP.

We were also interested in comparing probabilities of specific combinations of variables. For this purpose, we used the *emmeans* function (Lenth 2020). The results are presented in **Table 23**.

Table 23 shows that across both varieties (BP and EP), negation significantly increases the probability of the subjunctive being selected. For instance, in BP, the probability rises from 37.8% to 84.1% for the first person, and from 18.1% to 69% for the third person. In EP, the probabilities rise from 42.7% to 92.8% for the first person and from 9.1% to 71.6% for the third person.

Variety	Negation	Person	Probability (Subjunctive)	SE	95% CI (Lower)	95% CI (Upper)
BP	Non-negated	First	0.378	0.00314	0.3717	0.384
BP	Negated	First	0.841	0.00651	0.8273	0.853
BP	Non-negated	Third	0.181	0.00405	0.1730	0.189
BP	Negated	Third	0.690	0.01817	0.6531	0.724
EP	Non-negated	First	0.427	0.00613	0.4147	0.439
EP	Negated	First	0.928	0.00632	0.9151	0.940
EP	Non-negated	Third	0.091	0.00523	0.0812	0.102
EP	Negated	Third	0.716	0.03026	0.6534	0.772

Table 23: Probabilities of selecting the subjunctive mood given different combinations of variables in EP and BP with *acreditar*.

The table of probabilities confirms that the third person (*acredita*) generally shows a much lower probability of selecting the subjunctive compared to the first person, especially in the non-negated condition. If the probability of the subjunctive being selected with non-negated *acredita* is already quite low in BP (at 18.1%), it turns out to be marginal in EP (at 9.1%).

The EP variety shows higher probabilities of selecting the subjunctive in both the negated and non-negated conditions than does BP. This difference is particularly evident in the negated condition for the first person (92.8% for EP vs. 84.1% for BP).

In the second part of this subsection, we focus on tracing the quantitative profile of *crer* with regard to mood selection. The model predicting mood choice with *crêr* is based on the following data, which summarizes the different occurrences of *acreditar* in the corpora under study.

Variety	Brazilian Portuguese				European Portuguese			
Person	**1st person**		**3rd person**		**1st person**		**3rd person**	
Negation	**no**	**yes**	**no**	**yes**	**no**	**yes**	**no**	**yes**
Indicative	7703	177	304	17	3778	22	123	4
Subjunctive	2530	1629	63	40	373	1273	16	10

Table 24: Mood variation with *crêr* in relation to variety, negation, and person.

For ease of interpretation, we again report the coefficient estimates of our models as odds ratios. **Table 25** summarizes the results for the *crer* model.

Predictors	Mood		
	Odds Ratios	*CI*	*p*
(Intercept)	0.33	0.31 – 0.34	**<0.001**
Variety [EP]	0.02	0.01 – 0.03	**<0.001**
Negation [Negated]	27.99	23.81 – 32.89	**<0.001**
Person [Third]	0.63	0.48 – 0.83	**0.001**
Variety [EP] × Negation [Negated]	20.94	13.17 – 33.29	**<0.001**
Variety [EP] × Person [Third]	35.45	17.20 – 73.03	**<0.001**
Negation [Negated] × Person [Third]	0.41	0.21 – 0.78	**0.006**
(Variety [EP] × Negation [Negated]) × Person [Third]	0.08	0.02 – 0.36	**0.001**
Observations	18065		
R² Tjur	0.363		

Table 25: Model summary for the *crer* model.

- The intercept has the value of 0.33, which means that the odds of the subjunctive being selected by *creio* in BP are 0.33 times that of the indicative being selected under the same circumstances. However, in EP the odds of the subjunctive being selected under the same circumstances are much lower: 0.1 (i.e., 0.33*0.3). In other words, it is quite rare for the subjunctive to be selected in this specific context.
- Negation again has a strong impact on the odds of the subjunctive being selected in both BP and EP. However, the effect is much more pronounced in EP (odds for *creio*: 0.33*0.3*27.99*20.94 = 58) than in BP (0.33*27.99 = 9.24).
  The odds drop considerably in the third person condition (*crê*) in BP (odds for *crê*: 0.33*27.99*0.63*0.41 = 2.97) and even slightly more in EP (0.33*0.3*27.99*0.63*20.94* 2.09*0.41*0.08 = 2.5).

We were also concerned with comparing the probabilities of specific combinations of variables. The results are presented in **Table 26.**

Variety	Negation	Person	Probability (prob)	SE	df	asymp. LCL	asymp. UCL
BP	Non-negated	First	0.24746	0.00427	Inf	0.23920	0.25591
BP	Negated	First	0.90199	0.00700	Inf	0.88740	0.91488
BP	Non-negated	Third	0.17166	0.01968	Inf	0.13644	0.21373
BP	Negated	Third	0.70175	0.06060	Inf	0.57156	0.80583
EP	Non-negated	First	0.0899	0.00444	Inf	0.0815	0.0989
EP	Negated	First	0.9830	0.00359	Inf	0.9743	0.9888
EP	Non-negated	Third	0.11511	0.02707	Inf	0.0717	0.1797
EP	Negated	Third	0.71429	0.12074	Inf	0.4395	0.8885

Table 26: Probabilities of selecting the subjunctive mood given different variable combinations in EP and BP with *crer*.

Table 26 shows that negation significantly increases the probability of selecting the subjunctive in both BP and EP, regardless of person. For instance, in BP the probability of selecting the subjunctive with negation in the first person jumps from 24.7% in non-negated contexts to 90.2% in negated ones. Similarly, in EP the probability of the subjunctive being selected with negation increases from 8.99% to as high as 98.3%.

Apart from that, the first person condition consistently shows a higher probability of selecting the subjunctive than the third person condition, especially when negation comes into play.

BP generally shows a higher probability of selecting the subjunctive compared to EP. In BP, the probability of the subjunctive being selected with *creio* is relatively high (24.7%); it remains reasonably high even under the third person condition in non-negated contexts (17.2%). By contrast, in EP the propensity of the subjunctive to be selected under the non-negation condition is quite low with the third person (11.5%), and even lower with the first person (8.99%).

Finally, we plotted the model's estimates with 95% confidence intervals using various plotting functions. The plots (see **Figure 1**) visualize the peculiarities and patterns of mood selection with respect to the two belief predicates *acreditar* and *crer* in BP and EP. The y-axis represents the probabilities from 0.0 (=0%) to 1.0 (=100%). The plots convey an impression of the differences concerning mood selection patterns between the two varieties EP and BP, summarizing the impact of the three factors (person, negation, and variety) considered in this paper.
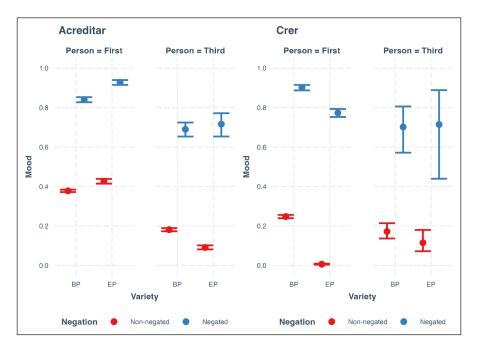
Figure 1: Predicated mood selection patterns for *acreditar* and *crêr* in BP and EP.

The plots highlight clear-cut differences between the mood selection patterns of *acreditar* and *crer* in EP and BP. The following aspects can be emphasized in our summary:

- Non-negated *acredito* is associated much more strongly with the subjunctive than non-negated *creio* in both varieties, with a slightly stronger bias for the subjunctive in EP. In EP, non-negated *creio* rarely occurs in combination with the subjunctive mood.

- Non-negated *acredita* is associated more strongly with the subjunctive in BP than in EP. As concerns *crê* in both varieties, the subjunctive mood is not very frequent, but it is not marginal, either.

- Negation has a strong impact on *acreditar* and *crêr*. Interestingly, the probability of the subjunctive being selected after *acredito* and *creio* under the negated condition is very high in both varieties, but is consistently higher in EP. On the other hand, there are no significant differences between BP and EP as regards the third person under the negated condition.

To summarize, we can highlight the following three major results:

1.) *Crer vs. acreditar*: The selection of the subjunctive remains significantly stronger with *acreditar* than with *crer* under the *non-negated condition* in both EP and BP. Under these same conditions, the impact of the subjunctive is stronger in BP than in EP, with the exception of *acredito*, which exhibits a slightly higher subjunctive bias in EP. Notably, *creio* is particularly infrequent with the subjunctive mood in EP.

2.) *Negation*: Negation has a very strong impact on the selection of the subjunctive in both varieties. However, the impact of negation with *acredito* and *creio* is consistently stronger in EP than in BP for both speaker-oriented forms.

3.) *First vs. third person*: The subjunctive bias is generally weaker in third person contexts than in first person contexts. This tendency is even more pronounced in EP than in BP in the non-negated condition. However, in the case of *acredita* and *crê* in the negation condition, no significant differences between the two varieties are discernible.

4.6 Summary of the analysis

In conclusion, it can be observed that the subjunctive, when combined with *acredito que*, serves a distinct function within the context of modalization, particularly in marking and highlighting the subjective nature of the speaker's stance. This role is somewhat more pronounced in EP than in BP. In contrast, the function of marking the speaker's subjectivity in contexts involving *creio que* + subjunctive is significantly weaker in both varieties, playing only a marginal role in EP. This trend is even more evident in the case of the third person forms of the two belief predicates: although still relatively frequent with *acredita que* in BP, the subjunctive tends to be almost marginal in EP. Negation has a very strong impact on the selection of the subjunctive in both EP and BP. However, the subjunctive bias of negated *acredito que* and *creio que* is consistently stronger in EP than in BP for both speaker-oriented forms. This indicates that the subjunctive functions primarily as a marker of disbelief on the part of the speaker, with this effect being more pronounced in EP than in BP.

The in-depth qualitative analysis of the corpus data reveals that the subjunctive, when following *acredita que* and *crê que*, no longer functions as a device for marking the belief holder's (maximal) distance with respect to the belief content (if indeed it ever did). On the contrary, our analysis reveals that mood alternations occur in similar contexts and appear to be independent of the degree of subjectivity of the belief holder. This significant new insight can be illustrated by a scale of belief types, ranging from personal convictions to expert opinions, with intermediate stages including collective and folk beliefs. As a result, we were unable to identify general cues or principles that consistently motivate and explain the selection of one mood over the other.

Future research should aim to determine whether some speakers alternate freely between the two moods (free variation) or whether those who do alternate still select the moods in a systematic manner, according to clearly identifiable cues and principles. If the latter proves to be the case, it would suggest the co-existence of competing grammars within the speech community of contemporary Portuguese (for an explanation of linguistic change in terms of competing grammars, see Kroch, 1994; for the application of this approach to the evolution of Brazilian Portuguese, see Galves & Kroch, 2016). This potential co-existence of competing grammars should be systematically contextualized and described using sociolinguistic variables such as age, social status, education, and register.

5. Non-finite belief clauses and syntactic aspects

This section focuses on the constraints on inflected non-finite clauses and addresses the empirical question of the availability of preverbal subjects in inflected infinitives selected by belief predicates.

5.1 The inflected infinitive complement clauses selected by *acreditar que* and *crer que* in BP and EP

As already commented on above, inflected infinitive constructions are very rare. The detailed analysis of all the examples displayed in the corpus casts some interesting light on the correlation between the matrix form and the person agreement on the bare infinitive (**Table 21**). Conspicuously, *acredito* combines almost exclusively with inflected infinitive forms of the third person plural (e.g., *serem*) in the European variety (55/59 occurrences, corresponding to 93.2%). Other inflected infinitive forms turned out to be marginal: we encountered only one or two occurrences of the second person singular form (*seres*), the first person plural form (*sermos*), and the second person plural form (*serdes*). In the Brazilian variety, this trend is a bit less pronounced. The third person plural forms (*serem*) clearly prevail (with 166/186 = 89.2% of occurrences). However, first person plurals do yield 10.8% (i.e., 20/186) of occurrences.

acredito + inflected Infinitive	BP – verb forms	EP – verb forms
acredito – 2SG	0	1
acredito – 1PL	20 – 8 *sermos*, 3 *termos*	2
acredito – 2PL	0	1
acredito – 3PL	166 – 122 *serem*, 19 *terem*,10 *estarem*	55 – 25 *serem*, 17 *terem*
	186	59

Table 21: Distribution of overtly marked inflective infinitives with *acredito* in BP and EP.

As regards *acredita*, the attested combinations present an even more "monolithic" picture (see **Table 22**). In BP, *acredita* combines with an infinitive marked for the third person plural (mostly *serem*) in 100% (!) of the cases. In EP, the share amounts to 98.5% (64 out of 65 occurrences), with a single occurrence (1/65 = 1.5%) attested with the second person plural (*serdes*).

As shown in **Table 23**, the form *creio* is also overwhelmingly associated with the third person plural (*serem*) – in 78.8% of the cases (corresponding to 67 out of 85 occurrences) in BP and in 69.7% of the instances (i.e., 46 out of 66 inflected infinitive forms) in EP.

acredita + inflected infinitive	BP – verb forms	EP – verb forms
acredita – 2SG	0	0
acredita – 1PL	0	1
acredita – 2PL	0	0
acredita – 3PL	129 – 80 *serem*, 19 *terem*, 13 *estarem*	64 – 24 *serem*, 15 *terem*, 10 *estarem*
	129	65

Table 22: Distribution of overtly marked inflective infinitives with *acredito* in BP and EP.

creio + inflected infinitive	BP – verb forms	EP – verb forms
creio – 2SG	1	1
creio – 1PL	17	19
creio – 2PL	0	0
creio – 3PL	67 – 31 *serem*, 11 *terem*	46 – 30 *serem*, 5 *terem*
	85	66

Table 23: Ratio of overtly marked inflective infinitives with *creio* in BP and EP.

Similarly to *acredita*, *crê* also only selects personal infinitives in the third person plural (*serem*). In other words, speakers typically refer to the belief content of a distant, i.e., "third party", belief holder who, in turn, refers to individuals and properties not present in the situation of utterance. In comparison to *acredita*, however, *crê* only marginally selects an inflected infinitive clause, as can be seen from the figures in **Table 24**.

crê + inflected infinitive	BP – verb forms	EP – verb forms
crê – 2SG	0	0
crê – 1PL	0	0
crê – 2PL	0	0
crê – 3PL	21 – 18 *serem*	9 – 3 *terem*, 2 *serem*
	21	9

Table 24: Distribution of overtly marked inflective infinitives with *crê* in BP and EP.

To round off the picture, a further important aspect must be highlighted. It appears that inflected infinitives are "recruited" from a very limited set of verbs. As **Table 21** shows, *serem* is the dominant form, amounting to 122 out of 166 occurrences in BP and 25 out of 65 occurrences in EP. The correlation is somewhat weaker with *acredita*, where *serem* is found in 80 out of 129 instances in BP and 24 out of 64 occurrences in EP. The same holds for *creio* and *crê*: *serem* occurs in 37 out of 67 instances selected by *creio* in BP, and in 30 out of 46 instances in EP. With *crê*, we find *serem* in 18 out of 21 occurrences in BP and in 2 out of 9 occurrences in EP. Note that the second most frequent inflected form is *terem*, followed at a considerable distance by *estarem* (see **Tables 21** to **23**).

This clear correlation between the belief predicates under scrutiny and a small number of inflected infinitive forms, especially *terem* and *serem*, may point to the routinization of usage patterns with highly frequent verbs. This tendency appears to be more accentuated in the Brazilian than in the Portuguese variety. The question of whether this is a sign of the more conservative character of BP, which preserves these well-entrenched structures due to the high frequency of these verbs (see Rosemeyer, 2014), or whether we are dealing with a loss of productivity in BP, which ensues from the more limited set of infinitival candidates, should be dealt with in more depth in a separate study.

Apart from that, clear selection restrictions also come to the fore: the set of inflected infinitive forms attested in the corpus falls exclusively into the domain of stative verbs. This list of verbs (with one or two attestations in the corpus queries) also includes inflected forms of deontic verbs, such as *dever(em)*, and of evaluative predicates like *merecer(em)* ('to deserve') and *abundar(em)* ('to be plentiful', 'to be abundant'). Inflected forms like *fazerem* ('to do') and *virem* ('to come'), which are not stative *per se*, occur as support verbs in collocations and periphrastic constructions, such as *fazer sentido* ('make sense'), *fazer sucesso* ('to be successful'), and *vir a ser* ('to be going to'). The results of our corpus queries confirm, therefore, Ambar's (1994) theoretical considerations addressed in Section 2.1. It would be interesting to discuss the consequences of the stativity requirement for a semantic analysis of the infinitival structures selected by belief predicates. From a semantic point of view, it seems that these infinitival structures suspend the time axis associated with the temporal structure of an event.

Finally, a very curious and unexpected result of our queries is the fact that some speakers combine both construction types under scrutiny, i.e., the finite and the inflected non-finite construction. More precisely, the speakers introduce the complementizer *que*, followed by an inflected infinitive form ("infinitivo flexivo"). This phenomenon is very rare and is restricted to the first person (*acredito que* + inflected infinitive with 9 occurrences in the corpus, and *creio que* + inflected infinitive with 6 occurrences). However, it is systematic and therefore cannot be shrugged off as a casual grammatical or orthographic error. This is also shown by the fact that a Google query of the type *acredito que termos* yields an impressive number of occurrences.

The examples in (42) and (43) – taken from each of the Portuguese varieties under scrutiny – illustrate this curious phenomenon.

(42) *(…) e porque eu acredito que termos de encontrar*
and because PRO.I believe.IND.1.SG that must.INF.AGR.1.PL find.INF
alguns pontos comuns para podermos trabalhar juntos,
some points common for can.INF.AGR.1.PL work.INF together
'and because I believe that we have to find some common ground so that we can work together'
(CdP, Portugal: General. O estado a que chegámos [texto de Sara Figueiredo Costa] | cinco, http://5dias.net/2012/11/15/o-estado-a-que-chegamos/)

(43) *Creio que aceitarmos tudo sem questionamentos,*
believe. IND.1.SG that accept.INF.AGR.1.PL everything without questioning
deixar de refletir seja o assunto que for (…)
cease.INF reflect.INF be.SUBJ.3.SG the subject that be.FUT.SUB.3SG
'I believe that we accept everything without questioning, ceasing to reflect on whatever the subject may be'
(CdP, Brasil: Blog. Você tem preguiça de ler? – Vida Real da Sam
http://www.vidarealdasam.com.br/2013/03/voce-tem-preguica-de-ler.html)

For the time being, we cannot come up with a sound explanation. However, the phenomenon may give an insight into the way the inflected infinitives are stored in the memory.

5.2 The subject position of inflected infinitives selected by *acreditar* and *crer* in BP and EP

In this subsection, we return to the question of the position of the subject in inflected complement clauses, with a particular focus on the availability of preverbal subjects. As highlighted in Section 2.1, the generative literature on inflected infinitive clauses is especially concerned with the subject position in these constructions, which differs in accordance with the verb class involved. In the case of doxastic predicates, the generative research claims that preverbal subjects are excluded in principle for structural reasons (see Section 2.1). However, in very rare cases (not specified by the generative literature) they do occur and, according to Mensching, these occurrences are more acceptable in Brazilian Portuguese than in European Portuguese (see Mensching, 2000, p. 28).

Generally speaking, our data confirm this observation. The number of examples with preverbal subjects in belief constructions with inflected complement clauses is minimal. However, these examples do exist and they attest to a marginal option in the grammatical system of the Portuguese language. Contrary to the literature, we were unable to verify that the pre-position of the subject is marginally more acceptable in BP than in EP. On the contrary, Davies' Web/Dialect corpus contained examples of a nominal preverbal subject only in the European

variety of Portuguese. In addition, another interesting aspect comes to light: the pre-position of personal pronouns seems to be, in general, more acceptable than that of a preverbal nominal phrase. However, our findings also allow us to refine other observations, further differentiating between the two varieties under scrutiny.

To begin with, the typical position of the subject in the infinitive clause is postverbal in both European and Brazilian Portuguese. See the standard examples (44) and (45) for both varieties under scrutiny.

(44) *Acredito   existirem   outras composições   que fazem   isso*
believe.IND.1.SG exist.INF.AGR.3.PL. other compositions that do.IND.3.PL this
muito bem   como nos   filmes Tommy, 2001.
very   good as   in the films Tommy 2001
'I believe there are other compositions that do this very well, as in the films Tommy, 2001'
(CdP, Portugal. Clube de cinema.pt)

(45) *(…) o   Espiritismo acredita   habitarem   Espíritos que*
       the Spiritism   believe.IND.3.SG dwell.INF.AGR.3.PL spirits   who
trabalham   em   a   edificação de o   mundo novo.
work.IND.3.PL in   the edification of the world new
'Spiritism believes that there dwell Spirits who work for the creation of the new world'
(CdP, Brasil. Espirito.org.br)

As regards the availability of preverbal subjects in inflected infinitive clauses, a more differentiated picture emerges in the Davies' Web/Dialect corpus. As the data suggest, preverbal nominal phrases (NP) are marginally accepted in EP but seem to be excluded in BP. At least, we did not find a single instance of this pattern in BP but there were some isolated examples in EP, such as (46).

(46) *não creio a amd (amd: a empresa advanced micro devices, the author)*
not believe.IND.1.SG a AMD
ter   porte para enfrentar a   intel em processadores principalmente com   a
have.INF scale to   take on the intel in processors,   especially.   with the
intel melhorando   sua arquitetura em um nivel tão
intel improve.PROG. its architecture at a   level so
acelerado.
accelerated
'I don't think AMD [AMD: the advanced micro devices company M.B.] has the scale to take on intel in processors, especially with intel improving its architecture at such an accelerated level'
(CdP, Portugal: Blog. Rumor: ATI tira a coroa à Nividia ao apresentar placa mais rápida, http://www.pcmanias.com/rumor-ati-tira-a-coroa-a-nvidia-ao-apresentar-placa-mais-rapida-que-a-titan/)

More importantly, the preverbal position seems (at least more) acceptable with certain grammatical items in both varieties under consideration. The following categories are attested in both EP and BP, as the illustrative examples in (47) to (52) show.

a)   Pronouns in preverbal position, especially *vocês*, *você* and *eles*:

(47)   *Concordo   que   são   exemplos que   não devem   ser*
        agree.IND.1.SG that be.IND.3.PL examples that not must.IND.3.PL   be.AUX
        seguidos   mas há   outros,   que   acredito   vocês
        follow.PP but   there are others   that believe.IND.1.SG PRO.you
        serem   defensores que atuam   de forma menos 'escrachada'
        be.AUX.INF.AGR.3.PL advocates who act.IND.3.PL in form   less   scurrilous
        e   que   manipulam
        and who manipulate
        'I agree that these are examples not to be followed, but there are others, which I believe you are advocates of, who act in a less "scurrilous" manner and who manipulate'
        (CdP, Brasil: criticadeponta.blogspot.com)

(48)   *Você   acredita   eles   serem   o que eles*
        PRO.you believe.IND.3.SG PRO.they be.AUX.INF.AGR.3.PL what PRO.they
        são.
        be.IND.3.PL
        'You believe them to be what they are'
        (CdP, Brasil: BR, 18.03.06, Muita gente diz que sou midas", diz diretor de Os Farofeiros, https://www.metropoles.com/entretenimento/cinema/todos-nos-ja-tivemos-historia-parecida-diz-diretor-de-os-farofeiros)

b)   The anaphoric pronoun of identification *o mesmo/a mesma*

(49)   *Creio   o   mesmo ter   acontecido em esta PEC 33.*
        believe.IND.1.SG the same   have.AUX.INF happen.PP in   this PEC 33
        'I believe the same has happened in this PEC 33'
        (CdP, Brasil: Não vem que não tem | Radar on-line – Lauro Jardim – VEJA.com http://veja.abril.com.br/blog/radar-on-line/congresso/nao-vem-que-nao-tem/)

c)   The demonstrative pronouns *este/esta* and *esse/essa*:

(50)   *Creio   este não ser   o   melhor lugar para expor   alguns*
        believe.IND.1.SG this not be.INF the best   place for   express.INF some
        sentimentos.
        feelings
        'I do not think this is the best place to express some feelings'
        (CdP, Brasil: Blog, O que um coração sente: A espera do amanhã, http://http://www.oqueumcoracaosente.com/2012/06/espera-do-amanha.html)

(51) (…) *depois faço a refeição sólida com bastante carbo e proteínas e baixa em gorduras.*
Acredito   *essa ser*   *uma (sic!) melhores abordagens pós treino,*
believe.IND.1.SG this be.INF one   best   approach   post   workout,
estou   *correto?*
be.IND.1.SG   correct
'Then I prepare the solid meal with plenty of carbs and protein and low in fats. I believe this is one (of) the best post workout approaches, am I correct?'
(CdP, Brasil: dicasdemusculacao.com)

d) The indefinite pronoun *alguns*

(52) *Aliás, há políticos Republicanos a defender a introdução duma taxa de CO_2 e*
creio   *alguns defenderem*   *que se*   *podem*   *isentar*
believe.IND.1.SG some   defend.INF.AGR.3.PL that PRO.one can.IND.3.PL exempt
as   *exportações e*   *taxar*   *as*   *importações*
the exports   and tax.INF the imports
'By the way, there are Republican politicians advocating the introduction of a CO_2 tax and I believe some argue that you can exempt exports and tax imports'
(CdP, Portugal: a-ciencia-nao-e-neutra.blogspot.com)

These examples show that different kinds of pronouns, with their anaphoric potential and minor "syntactic weight" (in contrast to full NPs), are attested, if infrequently, in the preverbal position in inflected infinitive clauses.

A further frequently recurring structure comes to light in the Web/Dialect subcorpus, namely inflected infinitive complements of doxastic/epistemic verbs nested in a relative clause. Examples (53) and (54) are representative of these structures in the two varieties.

(53) *Mas vi,*   *sim, muitos cartazes de "Dilma! >", que creio*
but see.PPS.1.SG yes   many posters of "Dilma"   that believe.IND.1.SG
representarem   *manifestações*   *isoladas, tanto*   *que*   *não*
represent.INF.AGR.3.PL demonstrations isolated so much that not
tiveram   *força*   *para soltar*   *grito.*
have.PPS.3.PL strength for   let out.INF yell
'But I did see many posters "Dilma! >", which I believe represent isolated demonstrations, so much so that they didn't have the strength to let out a yell.'
(CdP, Brasil, quemtemmedodademocracia.com)

(54) *Guiné-Bissau*   *um ponto de passagem de pessoas,*   *que se*   *acredita*
Guinea-Bissau a   point of transit   of persons that PRO.one believe.IND.3.SG
serem   *terroristas e*   *narcotraficantes.*
be.INF.AGR.3.PL terrorists and drug traffickers'
'Guinea-Bissau, a transit point for people believed to be terrorists and drug traffickers'
(CdP, Portugal, bissaudigital.com)

In these constructions, *creio* and *acredito* do not constitute simple parenthetical segments. If they were parentheticals, the verb following the belief predicate would be a finite form. Take the following example (55).

(55)   *Mas vi,   sim, muitos cartazes de "Dilma! >", que, creio,*
       but   see.PPS.1.SG yes many posters of "Dilma",   that believe.IND.1.SG
       representarem   manifestações
       represent.INF.AGR.3.PL demonstrations
       'But I did see many "Dilma! >" posters, which I believe represent demonstrations …'
       (CdP, Brasil: quemtemmedodademocracia.com)

In the construction in (55'), the nominal phrase, i.e., the direct object of the main clause, is left-dislocated from the following base structure (55').

(55')   Creio [[muitos cartazes de "Dilma! >" representarem manifestações]]

In a next step, the construction is left-dislocated (55") and is finally integrated into a relative clause (55''').

(55") [muitos cartazes de "Dilma! >"] $_t$, creio […$_t$ representarem manifestações]
(55''') vi [muitos cartazes de "Dilma! >"]$_t$, [que …$_t$ creio […$_t$ representarem manifestações]]

Note that nested structures seem to be particularly amenable to being complement clauses of belief predicates that constitute copula sentences.

We close this subsection with a final interesting observation. There is a specific postverbal pronominal position of the matrix clause that functions as a focus position. This focus position allows the speaker to contrast or to emphasize the subjective or personal character of his/her stance on or conviction about a certain state of affairs (see Posio, 2012, 2014, p. 15), This (contrastive/emphatic) focus position can be occupied by the first person pronoun *eu*, as illustrated in (56).

(56)   *Já   a   linha o   mais   acima da foto,   esverdeada, acredito*
       already the line the highest of   the photo greenish   believe.IND.1.SG
       eu   ser   um problema comum de foto,
       PRO.I be.INF a   problem common of photo
       como eu já lembro de ter visto.
       'Already the line, the one higher up in the photo, greenish, I believe to be a common photo problem, as I recall having seen'
       (CdP, Brazil: ovnihoje.com)

This postverbal focus position in combination with doxastic predicates is not limited to infinitive clauses. It is also available in finite complement clause constructions, as examples (57) and (58), with initial and finite verb positions, illustrate.

(57) *Mas acredito eu que foi o único momento em a*
but believe.IND.1.SG PRO.I that be.PPS.3.SG the only moment in the
história do Brasil em que a tortura, a falta de direitos e segurança
history of Brazil when the torture the lack of rights and security
jurídica assaltou também a classe média específica.
legal assault.PPS.3.SG also the class middle specific
'But I believe it was the only moment in the history of Brazil when torture, the lack of rights and legal security also assaulted the specific middle class.'
(CdP, Now Corpus, Brasil: 19-01-13, Artigo: Não estamos em pânico, https://oglobo.globo.com/opiniao/artigo-nao-estamos-em-panico-23366069)

(58) *Essa será a característica de o time daqui a pra frente,*
this be.FUT.3.SG the characteristic of the team from now on
acredito eu.
believe.IND.1.SG PRO.I
'This will be the characteristic of the team from now on, I believe.'
(CdP, Now Corpus: Brasil: 19-01-13, Análise: Pontos positivos e negativos de Vitória 0 × 0 Olímpia no …, https://futebolbahiano.org/2019/01/analise-pontos-positivos-e-negativos-de-vitoria-0-x-0-olimpia-no-barradao.html)

To sum up, we can conclude that there are clear differences in the very restricted availability of preverbal NPs between European and Brazilian Portuguese. As the examples show, EP allows them marginally; for BP, however, we did not find any occurrences in the corpus. There is still a need for acceptability tests to determine whether preverbal NPs are completely excluded in BP, i.e., systematically banned in that variety. There is, however, a strong convergence between the two varieties concerning the marginal possibility of placing anaphoric pronominal material in front of the inflected infinitive. These first results need to be complemented by further experiments testing speakers' acceptance of preverbal pronominal and nominal subjects in the two varieties of Portuguese considered in this paper. Apart from that, the (restricted) availability of anaphoric pronominal material in preverbal position must be accounted for in an appropriate manner by integrating these findings into a formal syntactic model.

6. Summary and conclusions

This section summarizes the results of this paper, highlighting, in particular, different tendencies with respect to the selection patterns of doxastic expressions in EP and BP. Thus, it answers the question of whether we find systematic differences between the two varieties under scrutiny. The following criteria for comparison have been taken into account in this paper:

- the general discourse-pragmatic role of modalization by doxastic predicates
- preferences in the selection of *acreditar* and *crer* with finite and non-finite complement clauses

- mood selection
- frequency and combinatorial patterns with marked inflectional infinitives
- the subject position in infinitival complement clauses

As for the general discourse-pragmatic role of modalization by doxastic predicates, it was observed that the use of modalizing doxastic expressions is far more frequent in BP than in EP. This trend holds even if we take other doxastic expressions (e.g., *acho que*) into account (see footnote 5). It would be worth studying these discourse-pragmatic habits of speakers and their speech communities in more depth in future research.

Selectional preferences also turned out to be an interesting aspect of variation in EP and BP. While *acredito que* is the most frequent expression for marking speaker commitment in general, it plays a more prominent role in BP than in EP. Its counterpart, *creio que*, has a higher *relative* weight in EP than in BP. Third person belief reports with *acredita* overwhelmingly prevail over those introduced by *crê* in both varieties, the latter being even rarer in EP than in BP. These trends are confirmed when it comes to the selection of (inflected) infinitive clauses. The scores obtained for *acredito/acredita* plus inflected infinitive are higher in BP than in EP, while those for *crer* present the opposite picture. In other words, subcategorized non-finite complement clauses have a slightly higher score in EP compared to BP. These results show only slight quantitative differences in selectional preferences between the two varieties, with EP being somewhat more prone to use *crer* as the modalizing expression.

Our quantitative and qualitative study, including a regression analysis, also revealed interesting insights into mood selection patterns and preferences, which varied according to the type of doxastic expression involved and the variety under scrutiny. In the case of *acredito que*, the selection of the subjunctive is very frequent in both varieties, though it is even more pronounced in EP. Negation also has a stronger impact on the selection of the subjunctive mood in this variety. Semantically, the subjunctive in contexts involving *acredito que* serves as a true marker of subjectivity, reflecting the speaker's intention to emphasize the personal character of his/her stance or conviction. This distinguishes *acredito que* from the other doxastic expressions examined in this paper. For instance, the combination of *acredita que* with the subjunctive is not very frequent in affirmative contexts in BP and is marginal in EP. In the scope of negation, *acredita que* exhibits a strong subjunctive bias; however, this tendency is less pronounced for the third person than for the first person in both varieties. In the scope of negation, *acredita que* has a very clear subjunctive bias that is, however, less pronounced for the third than for the first person in both varieties. As our qualitative analysis revealed, neither in BP nor in EP can the subjunctive in third person contexts (*acredita que* or *crê que*) be interpreted as a marker of subjectivity, nor can it be considered a device for signalling the maximal distance between the speaker and another person's belief or conviction.

The qualitative analysis of mood variation has demonstrated that the type of belief – whether it be a personal/subjective opinion, collective/folk conviction, or expert judgment – is not a relevant factor for the selection of a particular mood. Similarly, the speaker's opinion or conviction regarding a particular belief content does not play an unambiguous role in mood alternations. We have documented numerous instances where the indicative mood is used even when the belief content consists of erroneous and even scandalous opinions, according to the speaker. At most, there appears to be a slight tendency towards the subjunctive mood in the context of expert judgments. This observation may seem unexpected, but it could be explained by the hypothesis – still to be tested – that speakers may use the subjunctive to underscore the status of a reported belief attributed to a prominent and/or authoritative source. Alternatively, the use of the subjunctive could be explained by a sociolinguistic variable. Under this hypothesis, the subjunctive serves as an indicator of the formal nature of the expert discourse and as a marker of the speaker's social prestige.

In contrast, *creio que* is characterized by a strong indicative bias, possibly due to its roots in the tradition of New Testament biblical texts. The subjunctive in conjunction with *creio que* is observed to be a more likely option in BP than in EP, where it remains relatively marginal. Finally, the subjunctive combined with *crê que* is as rare in both varieties as it is in the context of *acredita que*. On the hand, negation has an extremely important effect on the selection of the subjunctive in contexts involving *creio que* in both varieties, with a particularly strong impact observed in EP. Therefore, it is reasonable to assert that the subjunctive functions as a marker of disbelief, particularly in EP.

The qualitative analysis of the rare instances of the subjunctive following *crê que* revealed that the subjunctive cannot be interpreted as an expressive marker of maximal distance from the belief content under consideration. A comparison with indicative contexts highlighted that there are no systematic or specific cues that consistently motivate the selection of the subjunctive mood – neither the type of belief nor the particular standpoint of the speaker. The findings suggest a generalization of the indicative in contexts governed by *crê que* in EP, thereby confirming an increasing convergence of this variety towards the mood subsystem of the doxastic domain in European Spanish.

In differentiating the two varieties, we can draw the overall conclusion that the subjunctive retains a significant role even in affirmative contexts in BP, whereas, in EP, it primarily serves as a marker of subjectivity in contexts involving *acredito que*. Negation has a strong impact on the selection of the subjunctive in both varieties, with the subjunctive functioning as a particularly strong marker of disbelief in EP, akin to its use in European Spanish. While the subjunctive plays a vital role in distinguishing shades of speaker commitment when combined with *acredito que* in both varieties, the influence of semantic factors is less evident with the other doxastic

expressions analysed. Consequently, it is proposed that other factors – particularly sociolinguistic ones – may play a more prominent role.

EP, by contrast, aligns more closely with the situation in Spanish, as the occurrence of the subjunctive is very strongly correlated with negation. However, unlike in Spanish, the subjunctive in EP also retains a residual function in affirmative contexts. Overall, in terms of mood usage, we can conclude that Brazilian Portuguese (BP) is the more conservative variety, as it continues to systematically employ mood variations in affirmative contexts.

Our findings concerning the frequency and combinatorial patterns of belief predicates with marked inflectional infinitival complement constructions also shed further light on differences between the varieties. *Acreditar* (*acredito/acredita*) + inflected infinitive clearly prevails in BP, whereas *crer* (*creio/crê*) plus infinitive is slightly more frequent in EP than in BP. Apart from this, we observed the emergence of combinatorial patterns of selected infinitive forms, a tendency that is more accentuated in BP than in EP. All four doxastic expressions preferably occur with inflected infinitive forms in the third person plural, with a predominant presence of *serem*, followed, at a considerable distance, by the forms *terem* and *estarem*. Other potential inflected verb forms are rare and they must satisfy the requirement of "stativity". Note that this verbal domain is also covered by deontic verbs (*deverem*), evaluative predicates (*merecerem*), support verbs (*fazer* as in *fazer sucesso*) and verbs with an auxiliary function in periphrastic constructions (*vir a fazer*). Given the limited number of occurrences, however, we are well advised to be cautious about making any strong generalizations as to systematic differences between the two varieties at hand. Finally, we have addressed the topic of the subject position in inflected infinitive clauses, which has been the focus of the generative research. Our corpus study confirms the general postverbal position of the subject that is characteristic of (CP-selecting) doxastic/epistemic verbs. A remarkable finding was, however, that pronouns with anaphoric potential and – in contrast to full NPs – with little "syntactic weight" are at least acceptable for speakers of both varieties. In Davies' Web/Dialects sub-corpus, we especially encounter examples of preposed subjects with personal pronouns like *você/vocês*, but also *eles*, anaphoric pronouns of identification (*o mesmo/a mesma*), demonstrative pronouns (*este/esta*, *esse/essa*), and indefinite pronouns such as *alguns*. It goes without saying that further studies, particularly studies testing the acceptability ratings of speakers, are needed. In addition, formal syntactic models should be able to account for the restricted availability of anaphoric material in preverbal position. Finally, we have also pointed out the relevance of specific syntactic structures in the sub-corpus: hybrid structures that combined a complementizer with an inflected infinitive form, inflected infinitive complements nested in a relative clause, and the existence of a postverbal pronominal focus position that allows the modalizing speaker to contrast or to emphasize the subjective or personal character of his stance/utterance.

Considering all factors, we can conclude that there are differentiating trends in the domain of doxastic predicates between the two varieties under scrutiny. These differentiating trends manifest themselves in quantitative terms; they are not categorical in nature. We observed a stronger bias towards different combinations with *acreditar* in BP, whereas EP has a slight preference for the selection of *crer* and its patterns. Mood selection preferences indicate the more conservative nature of BP, which aligns more closely with Italian on the mood continuum. In contrast, EP exhibits a mood system that approximates to that of Spanish and Catalan. A stronger routinization of infinitive selecting patterns in combination with a smaller inventory of selected verbs in BP, on the other hand, may suggest that the marked infinitive, especially, is less productive in BP than in EP. However, this result, based on a small amount of data, requires corroboration with further in-depth studies. The same holds for the factors affecting mood alternations in the case of *acredita que* and *crê que*. Regarding these expressions, empirical studies should be conducted to elucidate whether speakers freely alternative between the two moods or whether there are clearly identifiable cues and principles that point to competing grammars between the speakers of the language community (and the sub-communities). These results should be considered in relation to sociolinguistic factors such as age, degree of education, social status, register, etc., that correlate with the mood selection patterns observed in our study.

Finally, the findings concerning mood selection preferences and differences with respect to the vitality of inflected infinitive constructions point to differing evolutionary dynamics in both varieties: the reduction of the "functional load" of the subjunctive in the doxastic domain of EP, on the one hand, and the loss of productivity (and obsolescence in the long run?) of the inflected construction in BP, on the other.

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Competing Interests

The author has no competing interests to declare.

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